



Wheat landraces Project Country Report Afghanistan

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CIMMYT_{MR}

 **CIMMYT**_{MR}

LRs project implemented activities during 14-19

LRs Project Activities Area



LRs project implemented activities during 2014-15

LRs Project Technical Program for 2014-15				
NO	Experiment Name	sets	# Entries	Location
1	Collecting LR's from farmer field via CIMMYT-HUB team	1	25	Herat & Balkh
2	Conducted LR's Observation Nursery	1	25	Kabul Darullaman Research Station
TOTAL		25		



1:Collecting LRs from farmer field

CIMMYT-HUB team.



2:LRs Observation Nursery

Kabul Darullaman Research Station

Data sheet for Local land races (2014-2015) 25 Varieties													
No	PLOT	ENTRY		STAND	DH	DM	PHT	LODGING	GY/P	Row	p size	Kg/ha	YR
1	1	Attaye	Balkh	80	74	93	80	0	664	4	1.6	4150	10MR
2	2	Dandan Shotur	Balkh	80	85	93	95	0	383	4	1.6	2394	30S
3	3	shanaze	Herat	75	76	96	120	0	230	2	0.8	2875	40S
4	4	Surkhak Mahali	Balkh	85	74	95	105	0	799	4	1.6	4994	40S
5	5	dandan	Herat	20	79	94	100	0	90	1	0.4	2250	30S
7	7	Local	Balkh	85	74	96	125	0	464	4	1.6	2900	20MR
8	8	Lalmi Bor Khosha	Balkh	85	76	94	105	0	430	2	0.8	5375	30S
9	9	safedak kalak bdon dasa	Herat	85	75	93	99	0	733	3	1.2	6108	40S
10	10	omid badon dasa	Herat	80	77	92	110	20	526	2	0.8	6575	30S
11	11	Omid Dasah Siah Rang	Herat	80	74	91	120	40	338	2	0.8	4225	40S
12	12	Safidak Kalak Dasah Dar	Herat	85	76	93	90	30	433	2	0.8	5413	10MR
13	13	Omid Sorkh Khosha Bedon_e_Dasah	Herat	85	78	94	100	0	705	3	1.2	5875	40S
14	14	Roshan Safid Khosha	Balkh	80	76	94	95	0	277	5	2	1385	40S
15	15	Lalmi Safidak	Balkh	80	78	94	70	0	682	5	2	3410	TR
16	16	Kalak Robat Sangi	Herat	85	74	94	75	0	581	3	1.2	4842	10MR
17	17	Omid Kalak Robat Sangi	Herat	80	73	89	90	0	243	4	1.6	1519	TR
18	18	saffroni	Herat	85	77	93	95	0	108	1	0.4	2700	5MR
19	19	Zardcha Kalak Robat Sangi	Herat	85	76	87	85	0	566	3	1.2	4717	TR
20	20	sorkhak watani	Herat	80	74	88	80	0	199	2	0.8	2488	10MR
21	21	Kalak Safid Khosha	Herat	80	79	94	85	0	206	1	0.4	5150	TR
22	22	Nesh Shotor	Herat	85	77	91	80	0	223	1	0.4	5575	10MR
23	23	Kalak	Herat	80	75	91	90	0	150	1	0.4	3750	5MR
24	24	sorkh khosha	Herat	85	71	92	80	0	128	1	0.4	3200	5MR
25	25	Kalak Bor Khosha	Balkh	85	72	88	65	0	696	5	2	3480	TR



LRs project implemented activities during 2015-16

LRs Project Technical Program for 2015-16				
NO	Experiment Name	sets	# Entries	Location
1	Afghan LRs Trial	1	12	Kabul Darullaman Research Station
2	Afghan LRs Seed Multiplication	1	10	
3	Afghan LRs Crossing Block	1	10	
TOTAL		3	32	



1:LRs trial conducting:

12 entries, including two checks, at Darullaman research station

Entry No	Name/Pedigree	Seed Source	Grain Yield Kg/Ha	Rank	% of Check	Stand %	Days to Heading	Days to Maturity	Plant Height (cm)	Growth Habit	Spike Shape	No Spikelets / Spike	Effective / m ²	Grain Color	YR	1000 Kernel WT	Bundling Weight (g) (p)
1	Local Check (Chorte#1)	Check	6582	2	98	85	125	169	90	Semi-erect	Tapering	19	412	Amber	0	40	10000
2	Attaye	Balkh	4902	3	73	85	126	168	80	Semi-erect	Tapering	20	440	Amber	5R	35	8500
3	Surkhak Mahali	Balkh	3146	5	47	80	129	171	100	Prostrate	Fusiform	23	460	Amber	40MS	40	8000
4	Safedak kalak bdon dasa	Herat	1606	10	24	80	130	169	115	Prostrate	Tapering	17	440	Amber	80S	40	7000
5	Omid bedon dasa	Herat	2188	9	33	85	128	167	125	Semi-erect	Fusiform	21	462	Amber	60S	48	9500
6	Lalmi Safidak	Balkh	1562	11	23	75	130	170	130	Prostrate	Semi-Clavate	20	422	White	60S	35	7500
7	Kalak Robot Sangi	Herat	2274	8	34	80	129	168	125	Semi-erect	Fusiform	23	400	Amber	40MS	40	8500
8	Zardcha Kalak Robot Sangi	Herat	3988	4	60	85	131	168	110	Semi-erect	Parallel-sided	17	480	Amber	10R	40	9000
9	Kalak Bor Khosha	Balkh	2740	7	41	80	131	174	105	Semi-erect	Tapering	14	448	White	20MR	40	8000
10	Omid sorkh khosha bedon-e-dasah	Herat	2874	6	43	85	128	170	120	Prostrate	Fusiform	15	428	Amber	10MR	40	9500
11	Local Check (Mazan-99)	Check	6690	1	100	80	130	169	85	Prostrate	Tapering	19	390	Amber	0	40	10000
Mean			2874			80	129	169	110			19	440		40MS	40	8500
Max			6690			85	131	174	130			23	480		80S	48	10000
Min			1562			75	125	167	80			14	390		5R	35	7000
C.V. (%)			5.597														
S.E.M			5.60														
F(Prob)			3.64E-19**														
LSD (p<0.05)			322.625														
LSD (p<0.01)			440.073														
Researcher: Ahmad Jan Noori and Abdul Raqib Lodin			DoP (21/11/2015)		DoH (12/07/2016)		Fertilizer: DAP 200 kg/ha and Urea 250 kg/ha		Amount of Precipitation on crop: mm		Seed rate: 110 kg/ha		No of				
					Irrigations (4)		No of Weed Control (2)		Atlantis								

Note: Lalmi Bor khosha was not germinated

2:LRs crossing program:

LRs x Modern varieties

10 x 2=20

3:LRs seed multiplication

The Landraces for Seed multiplication for farmer field trials.

10 Landraces Seed multiplied

ENTRY	Name/Pedigree	Source	Kg/LRs
1	Attaye	Balkh	6054
2	Surkhak Mahali	Balkh	1388
3	Safedak Kalak Bedon_e_ Dasa	Herat	5330
4	Omid Bedon_e_ Dasa	Herat	5728
5	Lalmi Safedak	Balkh	1344
6	Kalak Robot Sangi	Herat	1244
7	Lalmi Bor Khosha	Balkh	2112
8	Kalak Bor Khosha	Balkh	4262
9	Omid Sorkh Khosha Bedon_e_ Dasah	Herat	1868
10	Zardcha Kalak Robot Sangi	Herat	7532

Entry	Origin	Seed Resource	Crosses yield /No of seeds				
			Chorte#01/Seed	Mazar99/Seed	Darullaman09/Seed	Lalmi 02/Seed	Lalmi 04/Seed
1	attaye	Balkh	50	75			
2	Surkhak Mahali	Balkh	45	53			
3	Lalmi Bor Khosha	Balkh			20		
4	safedak kalak bdon dasa	Herat	34	100			
5	Omid bedon dasa	Herat	15	47			
6	Lalmi Safidak	Balkh				60	20
7	Kalak Robot Sangi	Herat	41	29			
8	Zardcha Kalak Robot Sangi	Herat	53	19			
9	Kalak Bor Khosha	Balkh	50	21			
10	Omid sorkh khosha bedon-e-dasah	Herat	94	110			

Note: Lalmi Bor Khosha was not germinated in trial but on head row germinated the project did cross on them

LRs project implemented activities during 2016-17

LRs Project Technical Program for 2016-17										
NO	Exp/ Location	sets	# Entries	Kabul	Balkh			Herat		
					BLK	Dehdadi	Nahrishahi	HRT	Injil	Rubat_e_sangi
1	Afghan LRs	7	12	√	√	√	√	√	√	√
2	Turkish LRs	3	55	√	√			√		
3	17F3AFGHAN	3	20	√	√			√		
4	Afghan LRs F1	1	18	√						
5	Afghan LRs BC	1	40	√						
TOTAL		15	147	5	3	1	1	3	1	1



Afghan LRs Trial in 2016-17

Seven Locations, Afghanistan

Table. Mean values for yield and other traits of the wheat genotypes tested in the LRs) in 2016-17 at, all Locations, Afghanistan

Ent	Origin	Seed Source	1 Balikh, Dehdadi Research Satation		2 Balikh, Dehdadi, Pushti Bagh		3 Balikh, Nahrin Shahi, Langar Khana		4 Herat, Urdu Khan Research Satation		5 Herat, Enji, San Kocho		6 Herat, Kushi Rubat Sangee, Duo Aab		7 Kabul, Beni Hesar Research Satation		Across Mean of all Locations	
			On Research Satation	On Farmer Field trial	On Research Satation	On Farmer Field trial	On Research Satation	On Farmer Field trial	On Research Satation	On Farmer Field trial	On Research Satation	On Farmer Field trial	On Research Satation	On Farmer Field trial	On Research Satation	On Farmer Field trial	Kg/Ha	Rank
1	Local Check (Chore#1)	Check	5646	4	1703	7	2593	3	3182	4	4887	3	1297	10	4031	10	3334	4
2	Altaye	Balikh	6407	1	2251	2	2246	4	3315	1	4595	4	638	12	4746	4	3457	3
3	Surkhak Mahali	Balikh	5571	5	2119	4	1807	6	3223	3	1924	12	1643	7	4552	5	2977	10
4	Safedak Kalak Bedon_e_Dasa	Herat	4470	12	1652	8	1880	5	2831	7	4137	5	1886	6	3464	12	2905	11
5	Omid Bedon_e_Dasa	Herat	5724	2	1551	9	2836	2	2616	10	5871	2	1236	11	5208	3	3577	2
6	Lalimi Safedak	Balikh	5051	8	2020	5	1334	12	2392	11	3723	6	2358	2	3982	11	2980	9
7	Kalak Robot Sengi	Herat	5660	3	1064	12	1647	7	2790	8	3403	9	2187	4	6332	1	3298	5
8	Lalimi Bor Khosha	Balikh	4789	11	2234	3	1384	11	3091	5	2813	11	2309	3	4488	6	3015	8
9	Kalak Bor Khosha	Balikh	4993	9	1861	6	1539	8	2971	6	3408	8	2390	1	4317	7	3067	7
10	Omid Sorhkh Khosha Bedon_e_Dasah	Herat	4936	10	1359	11	1391	10	2763	9	3197	10	1466	9	4274	9	2754	12
11	Zardcha Kalak Robot Sengi	Herat	5285	6	1521	10	1504	9	2368	12	3428	7	2087	5	5293	2	3069	6
12	Local Check (Mazar-99)	Check	5075	7	2416	1	3343	1	3284	2	6430	1	1511	8	4292	8	3764	1
Mean			5180		1782		1727		2901		3575		1765		4402		3068	
Max			6407		2416		3343		3315		6430		2390		6332		3764	
Min			4470		1064		1334		2368		1924		638		3464		2754	
C.V. (%):			12.97		29.27		27.72		19.56		27.13		23.65		14.28			
Prob.F.:			0.129	**	0.097		0.002**		0.463		0.002	**	0.001	**	0	**		
S.E.M.:			396.85		585.18		601.66		629.22		624.23		458.82		377.78			
S.D.:			561.21		827.57		850.87		889.86		882.80		648.87		534.26			
LSD (p<0.05):			1163.88		1716.27		1764.60		1845.45		1830.82		1345.68		1108.00			
LSD (p<0.01):			1581.91		2332.71		2398.40		2508.29		2488.40		1829.02		1505.96			

Turkish LRs Nursery in 2016-17

Three Locations, Afghanistan

17F3AFGHAN (F3) nursery in 2016-17

10-15 Spike Selected/entry

17F3AFGHAN				
20ENT	CROSS	CID	Selected Spikes	
1	BEZOSTAYA		10	
2	NACIBEY		15	
3	531 (KU11295B)/MERCAN-1	TC1141486	15	
4	543 (KU11300A)/ARF2 (MAZAR 99)	TC1141487	15	
5	558 (KU11310)/5/VORONA/PARUS//HATUSHA/3/LUT112/4/PEHL//RPB8-68//CHRC	TC1141488	10	
6	578 (KU11323)/4/TAM200/KAU//GOLDMARK/3/BETTY	TC1141490	10	
7	586 (KU11329)/ORKINOS-1	TC1141491	10	
8	606 (KU11339)/KARAHAN	TC1141492	10	
9	636 (KU3053)/4/BETTY//AUS 4930.7/2*PASTOR/3/ORKINOS-1	TC1141493	10	
10	678 (KU3083)/ARF2 (MAZAR 99)	TC1141494	10	
11	715 (KU7455)/ARF4 (KABUL 2000)	TC1141496	10	
12	717 (KU7457)/ARF5 (SOLH 02)	TC1141497	10	
13	755 (KU7497)/ARF8 (RANA 96)	TC1141499	10	
14	761 (KU7504)/KARAHAN	TC1141500	10	
15	838 (KU7576)/ARF5 (SOLH 02)	TC1141501	15	
16	857 (KU7592)/4/ATIL/AGRI/NAC/3/ESKINA-8	TC1141502	15	
17	893 (KU7632)/3/DAGDAS94/QT6258/MERCAN-1	TC1141503	15	
18	907 (KU7651)/ARF2 (MAZAR 99)	TC1141504	15	
19	915 (KU7658)/ARF2 (MAZAR 99)	TC1141505	15	
20	933 (KU7676)/ARF5 (SOLH 02)	TC1141506	10	

Table. Mean values for yield and other traits of the Turkish LRs wheat genotypes tested in 2016-17 at, all Locations, Afghanistan													
Entry	LOCAL NAME	Kabul		Herat		Balikh		Across Mean of all Locations					
		Kg/Ha	YR	Kg/Ha	LR	Kg/Ha	YR	Kg/Ha	YR	LR	LR	Rank	Rank
1	CAM BUGDAYI (KIRIMIZI)	2188	0	3800	0	1485	0	2491	0	0	0	48	48
2	AGSUNTERI	2528	0	3119	0	1385	0	2344	0	0	0	52	52
3	UYETIK BUGDAYI	3000	TR	4450	30MS	2655	0	3368	TR	30MS	30MS	26	26
4	CAM BUGDAYI (BEYAZ)	1875	20MR	3281	0	1100	5R	2085	20MR	0	0	55	55
5	AKBUGDAY	3528	20MR	4947	0	2955	0	3810	20MR	0	0	11	11
6	AKBUGDAY	3575	TR	4869	0	2455	0	3633	TR	0	0	17	17
7	CAM BUGDAYI	2031	10MR	4184	0	1195	0	2470	10MR	0	0	50	50
8	ORMECE	2822	TR	4275	0	2795	0	3297	TR	0	0	27	27
9	CALIBASAN	3275	0	4875	0	2980	0	3710	0	0	0	14	14
10	Chonte#01	2934	20MR	5981	0	4030	0	4315	20MR	0	0	7	7
11	ORMECE	1778	10MR	4719	0	3130	0	3209	10MR	0	0	33	33
12	ORMECE	1288	20MR	0	0	2375	0	2533	20MR	0	0	47	47
13	AGBUGDAY	2075	TR	3853	50S	2230	0	2719	TR	50S	50S	45	45
14	POLATI	1309	40MS	3634	60S	3070	0	2671	40MS	60S	60S	46	46
15	KUNDURU	2694	10MR	4806	30MS	3535	0	3678	10MR	30MS	30MS	15	15
16	CAKMAK	2438	TR	4384	10S	2415	0	3079	TR	10S	10S	36	36
17	CAKMAK	1453	20MR	4935	TR	2455	TR	2811	20MR	TR	TR	44	44
18	CAKMAK	2359	80S	3994	R	2280	0	2878	80S	R	R	40	40
19	KUNDURU	1634	TR	4719	0	3325	0	3226	TR	0	0	31	31
20	Chonte#01	4025	20MR	6009	0	4505	0	4846	20MR	0	0	1	1
21	KUNDURU	1344	60S	4497	0	2685	TR	2842	60S	0	0	42	42
22	SIVEREK	2813	40MS	0	0	3385	0	3453	40MS	0	0	3	3
23	CIRPUZ	3588	TR	2925	0	960	0	2491	TR	0	0	48	48
24	CIRPUZ	2381	TR	3288	0	1200	5R	2290	TR	0	0	53	53
25	KIRIMIZI KUNDURU	3119	30MS	4713	0	3140	TR	3657	30MS	0	0	16	16
26	KIRIMIZI KUNDURU	2528	TR	3603	0	2450	10MR	2860	10MR	0	0	41	41
27	CIRPUZ	2066	40MS	2575	30MS	1635	10MR	2092	40MS	30MS	30MS	54	54
28	AKBUGDAY	2259	0	6228	0	3130	20M	3873	20M	0	0	9	9
29	SIVEREK	3300	0	3400	0	2670	30MR	3123	30MR	0	0	35	35
30	Chonte#01	4306	30MS	4572	0	4295	0	4391	30MS	0	0	6	6
31	CIRPUZ	1988	TR	4041	0	2470	20M	2833	20M	0	0	43	43
32	CIRPUZ	2419	40MS	3400	20S	1565	5R	2461	40MS	20S	20S	51	51
33	GOEREDI	1997	20MS	4516	0	2910	TR	3141	20MS	0	0	34	34
34	KILICKSIZ BUGDAY	2656	30MS	4197	30MS	2810	0	3221	30MS	30MS	30MS	32	32
35	KOZA BUGDAY	3044	40MS	3722	0	2145	5R	2970	40MS	0	0	39	39
36	AKYARNAZ	3391	20MR	3684	0	2835	TR	3370	20MR	0	0	25	25
37	KIRIMIZI BUGDAY	4141	TR	4166	0	3170	10MR	3825	10MR	0	0	10	10
38	KIRIMIZI BUGDAY	3125	0	4000	0	3315	TR	3480	TR	0	0	18	18
39	SORGUL	4716	TR	4775	0	3705	5R	4399	5R	0	0	5	5
40	Chonte#01	4700	0	5219	0	3765	0	4575	0	0	0	3	3
41	HINTA	3097	0	4619	0	3625	TR	3780	TR	0	0	12	12
42	ZINEBE	3000	0	3697	0	3000	TR	3232	TR	0	0	29	29
43	SORIK	2781	20MR	3681	0	3220	10M	3228	20MR	0	0	30	30
44	HACIALI	2719	10MR	4806	0	2835	10M	3453	10M	0	0	22	22
45	HACIALI	3103	TR	3463	0	2550	5R	3039	5R	0	0	37	37
46	HACIALI	3313	0	3931	0	3195	5R	3480	5R	0	0	19	19
47	GERGUN	2800	0	3791	0	3160	10R	3250	10R	0	0	28	28
48	KIRIMIZI BUGDAY	2734	0	4338	0	3145	0	3406	0	0	0	24	24
49	SORGUL	3313	TR	3697	0	3365	TR	3458	TR	0	0	21	21
50	Chonte#01	4163	0	4556	0	5065	0	4955	0	0	0	2	2
51	HAYIRANI	3122	0	3991	0	4030	TR	3714	TR	0	0	13	13
52	KIRIMIZI BUGDAY	3028	0	3825	0	3525	0	3459	0	0	0	4	4
53	SORGUL	4318	TR	4481	0	4830	0	4541	TR	0	0	8	8
54	HACIALI	1750	5MR	3622	0	3614	0	3614	5MR	0	0	38	38
55	KIRIMIZI BUGDAY	2784	0	4553	0	4610	0	3983	0	0	0	8	8

LRs F2 Result 2016-17

The project harvested 18 Afghan LRs F2

Afghanistan LRs F1 Result 2016-2017

18NURSERY	18ENTRY	17NURSERY	17ENTRY	CNAME	CID	seeds/gr
18F2LRACE		117F1-AFG		1ATTAYE/CHONTE#1	CA16101	7
18F2LRACE		217F1-AFG		2ATTAYE/MAZAR99	CA16102	30
18F2LRACE		317F1-AFG		3SURKHAK MAHALI/CHONTE#1	CA16103	31
18F2LRACE		417F1-AFG		4SURKHAK MAHALI/MAZAR99	CA16104	41
18F2LRACE		517F1-AFG		5SAFEDAK KALAK BEDON_E_DASA/CHONTE#1	CA16105	20
18F2LRACE		617F1-AFG		6SAFEDAK KALAK BEDON_E_DASA/MAZAR99	CA16106	38
18F2LRACE		717F1-AFG		7OMID BEDON_E_DASA/CHONTE#1	CA16107	127
18F2LRACE		817F1-AFG		8OMID BEDON_E_DASA/MAZAR99	CA16108	106
18F2LRACE		917F1-AFG		9LALMI SAFEDAK/LALMI02	CA16109	13
18F2LRACE		1017F1-AFG		10LALMI SAFEDAK/LALMI04	CA16110	42
18F2LRACE		1117F1-AFG		11KALAK ROBAT SANGI/CHONTE#1	CA16111	134
18F2LRACE		1217F1-AFG		12KALAK ROBAT SANGI/MAZAR99	CA16112	72
18F2LRACE		1317F1-AFG		13ZARDCHA KALAK ROBAT SANGI/CHONTE#1	CA16113	112
18F2LRACE		1417F1-AFG		14ZARDCHA KALAK ROBAT SANGI/MAZAR99	CA16114	97
18F2LRACE		1517F1-AFG		15KALAK BOR KHOSHA/CHONTE#1	CA16115	102
18F2LRACE		1617F1-AFG		16KALAK BOR KHOSHA/MAZAR99	CA16116	104
18F2LRACE		1717F1-AFG		17OMID SORKH KHOSHA BEDON_E_DASAH/CHONTE#1	CA16117	79
18F2LRACE		1817F1-AFG		18OMID SORKH KHOSHA BEDON_E_DASAH/MAZAR99	CA16118	13

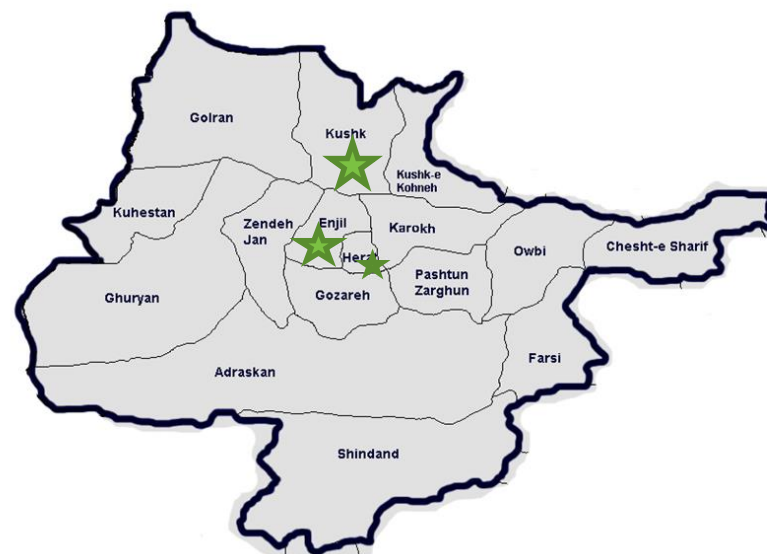
LRs Backcross (BC) Result 2016-17

The project harvested 40 Afghan LRs BC

Afghanistan LRs Backcross Result 2016-2017

Entry/No	Crossing History	no/seeds
1	Attaye/Mazar99//Attaye	14
2	Attaye/Mazar99//Mazar99	57
3	Attaye/Chonte#1//Attaye	7
4	Attaye/Chonte#1//Chonte#1	28
5	Surkhak Mahali/Mazar99//Surkhak Mahali	64
6	Surkhak Mahali/Mazar99//Mazar99	63
7	Surkhak Mahali/Chonte#1//Surkhak Mahali	75
8	Surkhak Mahali/Chonte#1//Chonte#1	95
9	Lalmi Bor Khosha/Darullaman07//Lalmi Bor Khosha	27
10	Lalmi Bor Khosha/Darullaman07//Darullaman07	17
11	Lalmi Bor Khosha/Lalmi02//Lalmi Bor Khosha	37
12	Lalmi Bor Khosha/Lalmi02//Lalmi02	17
13	Safedak Kaiak Bedon_e_Dasa/Mazar99//Safedak Kaiak Bedon_e_Dasa	9
14	Safedak Kaiak Bedon_e_Dasa/Mazar99//Mazar99	54
15	Safedak Kaiak Bedon_e_Dasa/Chonte#1//Safedak Kaiak Bedon_e_Dasa	36
16	Safedak Kaiak Bedon_e_Dasa/Chonte#1//Chonte#1	65
17	Omid bedon dasa/Mazar99//Omid bedon dasa	62
18	Omid bedon dasa/Mazar99//Mazar99	73
19	Omid bedon dasa/Chonte#1//Omid bedon dasa	36
20	Omid bedon dasa/Chonte#1//Chonte#1	30
21	Lalmi Safidak/Lalmi02//Lalmi Safidak	90
22	Lalmi Safidak/Lalmi02//Lalmi02	20
23	Lalmi Safidak/Lalmi04//Lalmi Safidak	30
24	Lalmi Safidak/Lalmi04//Lalmi04	75
25	Kalak Robat Sangi/Mazar99//Kalak Robat Sangi	58
26	Kalak Robat Sangi/Mazar99//Mazar99	43
27	Kalak Robat Sangi/Chonte#1//Kalak Robat Sangi	65
28	Kalak Robat Sangi/Chonte#1//Chonte#1	49
29	Kalak Bor Khosha/Mazar99//Kalak Bor Khosha	60
30	Kalak Bor Khosha/Mazar99//Mazar99	31
31	Kalak Bor Khosha/Chonte#1//Kalak Bor Khosha	72
32	Kalak Bor Khosha/Chonte#1//Chonte#1	35
33	Omid sorkh khosha bedon -e-dasah/Mazar99//Omid sorkh khosha bedon -e-dasah	35
34	Omid sorkh khosha bedon -e-dasah/Mazar99//Mazar99	28
35	Omid sorkh khosha bedon -e-dasah/Chonte#1//Omid sorkh khosha bedon -e-dasah	24
36	Omid sorkh khosha bedon -e-dasah/Chonte#1//Chonte#1	63
37	Zardcha Kalak Robat Sangi/Mazar99//Zardcha Kalak Robat Sangi	26
38	Zardcha Kalak Robat Sangi/Mazar99//Mazar99	15
39	Zardcha Kalak Robat Sangi/Chonte#1//Zardcha Kalak Robat Sangi	35
40	Zardcha Kalak Robat Sangi/Chonte#1//Chonte#1	61

LRs project implemented Field Days, Workshops during 16-17 in Herat Province



Field Days and Workshops:

➤ Field day on why conserve LRs, Enjil District.

Abdul Ghani field A total of 24 individual farmers Extension worker Community elders, and Neighbors' farmers.

➤ Field day on why conserve LRs, Kuchek_E_Rubat Sangee District.

Abdul Jabar field A total of 19 individual farmers Extension worker Community elders, and Neighbors' farmers

➤ Field day on evaluation and selection LRs by Farmers, Kuchek_E_Rubat Sangee

Field visit, discussion on importance of land races, farmers evaluate different land races at Herat Province, Kuchek_E_Rubat Sangee 22 participants. individual farmers, researchers, Extension workers, Community elders and Neighbors' farmers.

➤ Affect of climate change on wheat production and LRs are useful, Workshop, DAIL.

Climate change affects wheat production, Land races are useful, Workshop at Herat, DAIL 35 participants. Stakeholders, individual farmers, researchers, Extension workers,



Herat

Why conserve LRs, Field days

Field day on why conserve LRs,
Enjil District.



Abdul Ghani field A total of 24 individual farmers Extension worker
Community elders, and Neighbors' farmers

Field day on why conserve LRs,
Kushk_E_Rubat Sangee District.



Abdul Jabar field A total of 19 individual farmers Extension worker
Community elders, and Neighbors' farmers

Herat

LRs evaluation and selection field day and climate change workshop

**Field day on evaluation and selection
LRs by Farmers, Kushk_E_Rubat Sangee.**



Field visit, discussion on importance of land races, farmers evaluate different land races at Herat Province, Kushk_E_Rubat Sangee 22 participants. individual farmers, researchers, Extension workers, Community elders and Neighbors' farmers

**Affect of climate change on wheat production
and LRs are useful, Workshop, DAIL**

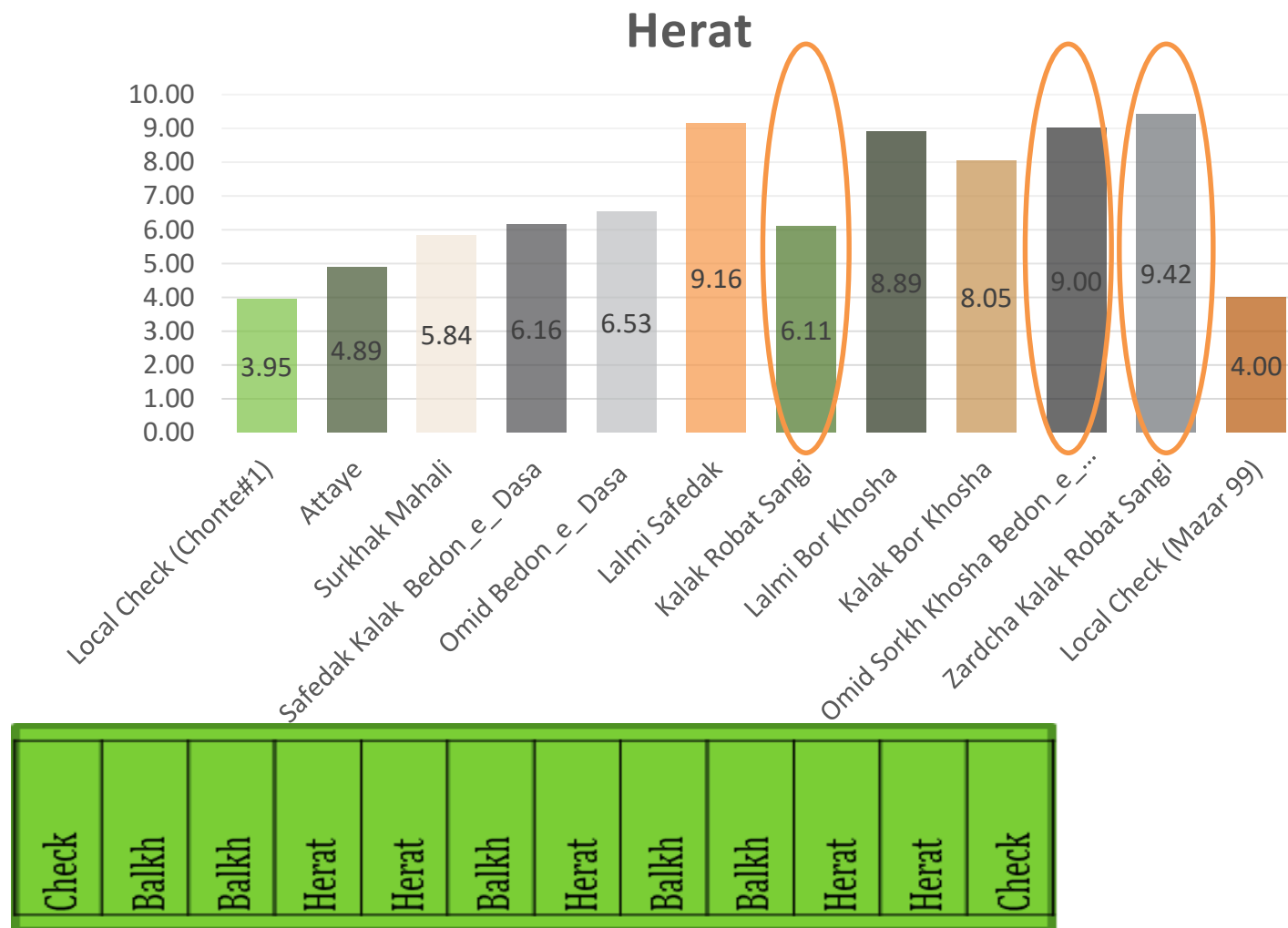


Climate change affects wheat production, Land races are useful, Workshop at Herat, DAIL 35 participants. Stakeholders, individual farmers, researchers, Extension workers,

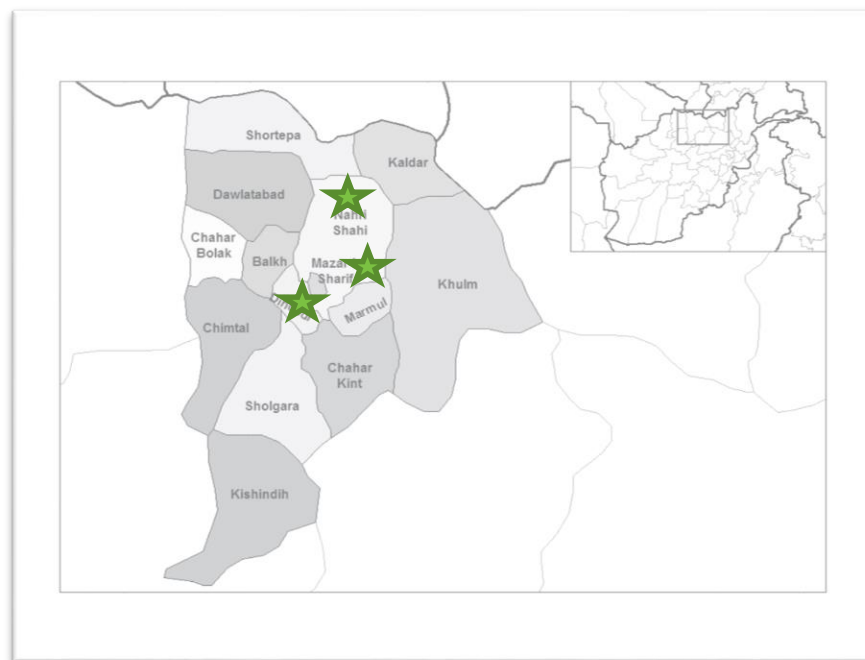


Farmers evaluation and selection different Landraces

Field day on evaluation and selection LRs by Farmers, Kushk_E_Rubat Sangee.



LRs project implemented Field Days, Workshops during 16-17 in Balkh Province



Field Days and Workshops:

- ✓ **Field day on why conserve LR, Dehdadi District.**

Abdul Manan field A total of 20 individual farmers Extension worker Community elders, and Neighbors' farmers .

- ✓ **Field day on why conserve LR, Nahri Shahi District.**

Mirza Mohammad field A total 25 individual farmers Extension worker Community elders, and Neighbors' farmers attended the LR training.

- ✓ **Field day on evaluation and selection LR by Farmers, Dehdadi research station.**

Climate change affects wheat production, Land races are useful, Field day at Balkh, Dehdadi Research Station A total 19 participants. individual farmers, researchers, Extension workers, Community elders, and Neighbors' farmers attended the LR field day training

- ✓ **Affect of climate change on wheat production and LR are useful, Workshop, DAIL**

Climate change affects wheat production, Land races are useful, Workshop at Balkh, DAIL 43 participants. Stakeholders, individual farmers, researchers, Extension workers

Balkh

Why conserve LRs, Field days

Field day on why conserve LRs,
Dehdadi District.



Abdul Manan field A total of 20 individual farmers Extension worker
Community elders, and Neighbors' farmers

Field day on why conserve LRs,
Nahri_E_Shahi District.



Mirza Mohammad field A total 25 individual farmers Extension worker
Community elders, and Neighbors' farmers attended the LR training.



Balkh

LRs evaluation and selection field day and climate change workshop

Field day on evaluation and selection LRs by Farmers, Dehdadi.



Climate change affects wheat production, Land races are useful, Field day at Balkh, Dehdadi Research Station. A total 19 participants, individual farmers, researchers, Extension workers, Community elders, and Neighbors' farmers attended the LR field day training.

Affect of climate change on wheat production and LR are useful, Workshop, Balkh DAIL

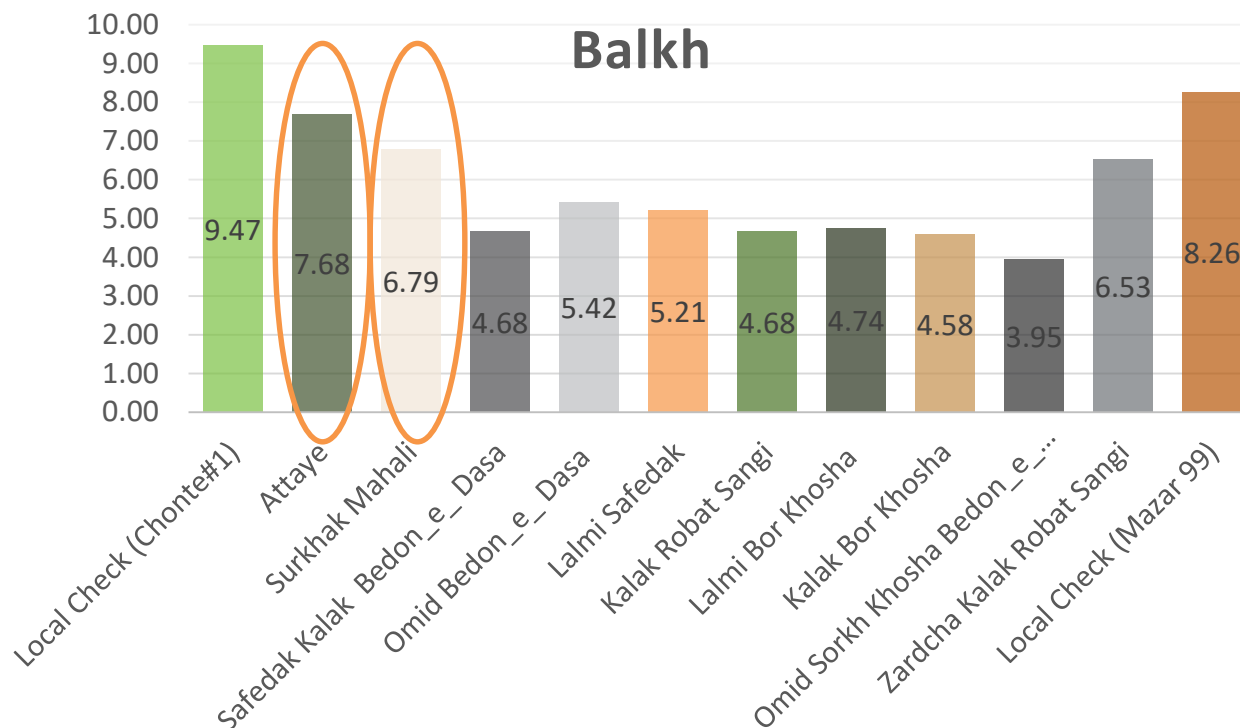


Climate change affects wheat production, Land races are useful, Workshop at Balkh, DAIL. 43 participants, Stakeholders, individual farmers, researchers, Extension workers.



Farmers evaluation and selection different Landraces

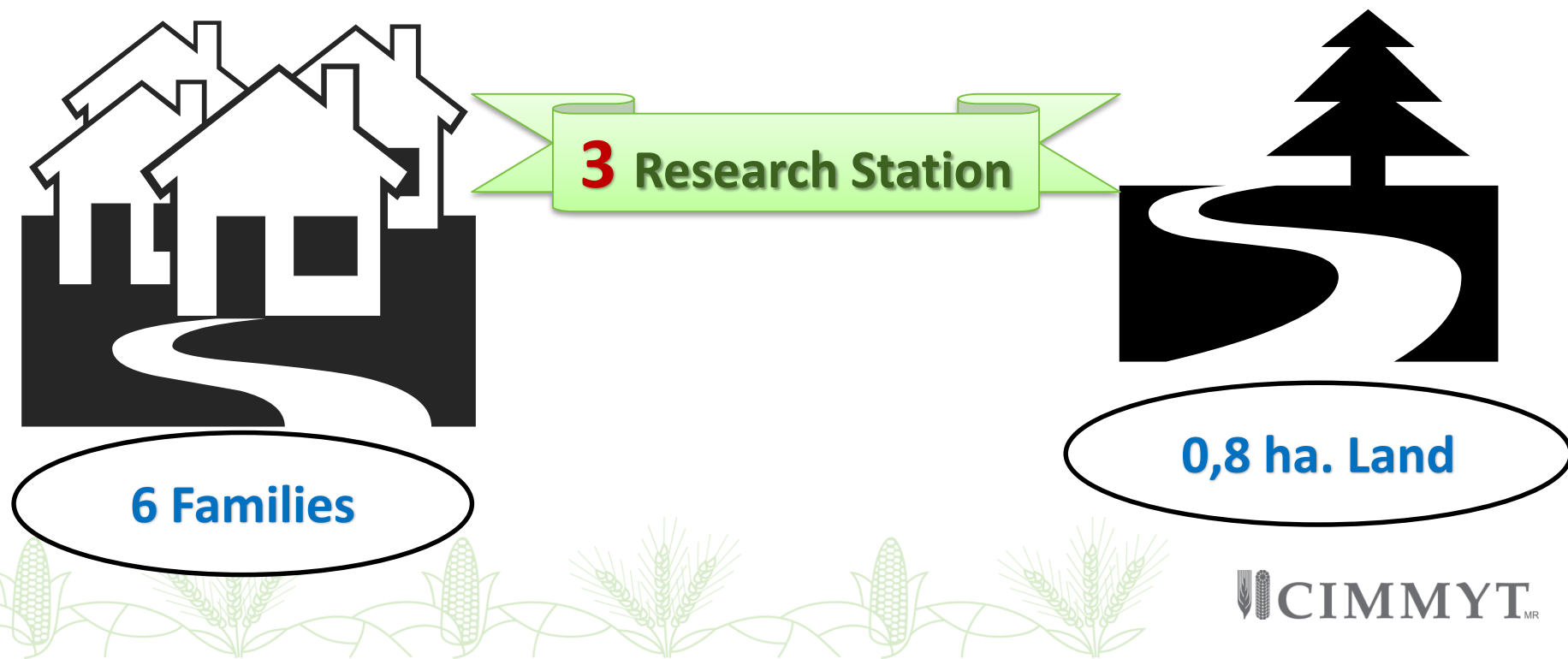
Field day on evaluation and selection LRs by Farmers, Dehdadi.



Check	Balkh	Balkh	Herat	Herat	Balkh	Herat	Balkh	Balkh	Herat	Herat	Check
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Project Outcome On Research Station during 2016-17:

NO	Exp/ Location	sets	# Entries	Kabul	Balkh	Herat
				Beni Hesar	Dehdadi	Urdo Khan
1	Afghan LRs	3	12	√	√	√
2	Turkish LRs	3	55	√	√	√
3	17F3AFGHAN	3	20	√	√	√
4	Afghan LRs F1	1	18	√		
5	Afghan LRs BC	1	40	√		
TOTAL		11	145	5	3	3



Project Outcome On farmer field during 2016-17:

Project Type	Total # of direct beneficiary farmers and stakeholders	Total # of indirect beneficiary farmers and stakeholders	Shown interest with LRs # of farmers
LRs Seed Distribution & Training	129	500	150
Stakeholders Workshop	78	94	99



LRs project implemented activities during 2017-18

LRs Project Technical Program for 2017-18										
NO	Exp/ Location	sets	# Entries	Kabul	Balkh		Herat			Helmand
				Beni Hasar R,S	Nahri Shahi	Dehdadi	Urdo Khan R,S	Enjil	Rubat_e_sangi	Bolan R,S
1	Afghan LRs in FF	50	5		√	√		√	√	
2	Afghan LRs Seed Multi	5	5				√			√
3	Iran-Afghan LRs	2	36	√			√			
4	17F4AFGHAN	1	20	√						
5	18F3AFGHAN	1	16	√						
6	Afghan LRs BC F1	1	40	√						
7	Afghan LRs F2	1	18	√						
8	Afghan LRs Seed Multi	1	20	√						
9	Progeny Block	1	10	√						
TOTAL		63	170	7	1	1	2	2	1	1



LRs project implemented activities during 17-18 in Kabul Province

Trials and Nurseries

1. Afghan LRs Seed Multi
2. Iran-Afghan LRs
3. 17F3AFGHAN
4. 18F3AFGHAN
5. Afghan LRs BC
6. Afghan LRs F2
7. Afghan LRs Seed Multi
8. Progeny Block



Kabul

LRs project on farm activities

17 F3 Afghan



17 F3 Afghan Observation Nurseries 20 Entries, Beni-E-Hesar Research Station

Turkish LRs Observation Nurseries



Turkish LRs Observation Nurseries 50 Entries, Beni-E-Hesar Research Station



Kabul

LRs project on farm activities

Afghan LRs Progeny



Afghan LRs Progeny 10 Entries,
Beni-E-Hesar Research Station

Afghan LRs Head Rows



Afghan LRs Head Rows 10 Entries,
Beni-E-Hesar Research Station



Kabul

LRs project on farm activities

LRs Back Cross



First year: $10 \times 2 = 20$ new lines
Second year: $20 \times 2 = 40$ new lines.
Beni-E-Hesar Research Station

Afghan LRs Trail



Afghan LRs Trail 12 Entries,
Beni-E-Hesar Research Station



Kabul

LRs project on farm activities

On Farm Activities:



Afghan LRs 5 Seed Multi, Iran-Afghan LRs, 17F3AFGHAN, 18F3AFGHAN, Afghan LRs BC, Afghan LRs F2, Afghan LRs 20 Seed Multi and Progeny Block are planted at Beni_E_Hesar and Urdo Khan Research Stations

Sample for DNA:



192 Genotype were send to Turkey for DNA analysis



Iran-Afghan LRs trial 2017-18

Total 30 Iranian LRs one check and five Afghan LRs in three locations

Across mean values for yield and other traits of the wheat LRs genotypes tested in the LRs trial in 2017-18 at Two Locations in Afghanistan												
Variety				Kabul 2017-18 Grain Yield			Herat 2017-18 Grain Yield			Across mean		
SN	Cross Name	OC	STATUS	Kg/ha	Rank	% of Check	Kg/ha	Rank	% of Check	Kg/ha	Rank	% of Check
1	LOCAL CHECK (Solh 02)	Check	Check	7943	1	100	7731	1	97	7837	1	100
2	Khoshkeh Qermez	DARI	andrace	6423	6	81	5279	9	66	5851	6	75
3	White Spike	DARI	andrace	3167	24	40	4738	14	60	3952	16	50
4	Khoshkeh Abiaq	DARI	andrace	3170	23	40	4206	18	53	3688	18	47
5	Qzli Khosheh	DARI	andrace	5640	8	71	4375	16	55	5008	9	64
6	Mahali Bahareh	DARI	andrace	4887	10	62	3913	24	49	4400	13	56
7	Qzli Khosheh	DARI	andrace	4417	12	56	4473	15	56	4445	11	57
8	Qermez Zaveh	DARI	andrace	5480	9	69	5054	12	64	5267	8	67
9	Siahdaneh	DARI	andrace	2977	26	37	3777	25	48	3377	28	43
10	Qermez Ghen	DARI	andrace	3990	16	50	2413	35	30	3201	31	41
11	Ghareh Qeichikh	DARI	andrace	4140	15	52	2713	32	34	3426	25	44
12	Sardari biotype	DARI	andrace	2640	28	33	4267	17	54	3453	24	44
13	Sardari biotype	DARI	andrace	3700	19	47	2169	36	27	2934	33	37
14	Sardari biotype	DARI	andrace	4683	11	59	4140	20	52	4411	12	56
15	Sardari biotype	DARI	andrace	3160	25	40	3194	28	40	3177	32	41
16	Sardari biotype	DARI	andrace	3740	18	47	3942	21	50	3841	17	49
17	Sardari biotype	DARI	andrace	2477	31	31	5773	6	73	4125	15	53
18	Sardari biotype	DARI	andrace	3350	21	42	3640	26	46	3495	23	45
19	Sardari biotype	DARI	andrace	2500	30	31	4192	19	53	3346	29	43
20	Sardari biotype	DARI	andrace	2013	35	25	5104	11	64	3559	20	45
21	Sardari biotype	DARI	andrace	2383	32	30	2829	31	36	2606	36	33
22	Sardari biotype	DARI	andrace	5580	20	45	5310	8	67	4445	10	57
23	Sardari biotype	DARI	andrace	1937	36	24	5152	10	65	3544	21	45
24	Sardari biotype	DARI	andrace	3293	22	41	5402	7	68	4348	14	55
25	Sardari biotype	DARI	andrace	2893	27	36	3942	21	50	3418	27	44
26	Sardari biotype	DARI	andrace	3963	17	50	2523	34	32	3243	30	41
27	Sardari biotype	DARI	andrace	2333	34	29	3398	27	43	2866	34	37
28	Sardari biotype	DARI	andrace	2340	33	29	4745	13	60	3543	22	45
29	Sardari biotype	DARI	andrace	2530	29	32	3100	29	39	2815	35	36
30	Sardari biotype	DARI	andrace	4143	14	52	2706	33	34	3425	26	44
31	Sardari biotype	DARI	andrace	4277	13	54	3010	30	38	3644	19	46
32	Attay	Balkh	andrace	7547	2	95	6594	2	83	7070	2	90
33	Surkhak Mahali	Balkh	andrace	7123	4	90	6342	4	80	6733	4	86
34	Kalak Robot Sangi	Herat	andrace	7157	3	90	6460	3	81	6809	3	87
35	Omid Sorik Khosha Bedon_e_Dasah	Herat	andrace	6867	5	86	3940	23	50	5403	7	69
36	Zardcha Kalak Robot Sangi	Herat	andrace	5867	7	74	6173	5	78	6020	5	77
Mean				3720			4199			3666		47
Max				7943			7731			7837		100
Min				1937			2169			2606		33
C.V. (%)				18.8			17.2					
S.E.M				447.7018034			432.84215					
F(Prob)				1.32E-20	**		1.79E-15	**				
LSD (p<0.05)				1262.769804			1220.8573					
LSD (p<0.01)				1676.510121			1620.8651					

17F3 & 18F3 AFGHAN(F4-F3) 2017-18

10 Spike Selected per entry

17NURSERY	17ENTRY	16NURSERY	16ENTRY	CROSS	Selected Spike
17F3AFGHAN	1	16F2AFGHAN	1	BEZOSTAYA	10
17F3AFGHAN	2	16F2AFGHAN	2	NACIBEY	10
17F3AFGHAN	3	16F2AFGHAN	3	531 (KU11295B)/MERCAN-1	10
17F3AFGHAN	4	16F2AFGHAN	4	543 (KU11300A)/ARF2 (MAZAR 99)	10
17F3AFGHAN	5	16F2AFGHAN	5	558 (KU11310)/5/VORONA/PARUS//HATUSHA/3/LUT112/4/PEHL//RPB8-68//CHRC	10
17F3AFGHAN	6	16F2AFGHAN	6	578 (KU11323)/4/TAM200/KAUZ//GOLDMARK/3/BETTY	10
17F3AFGHAN	7	16F2AFGHAN	7	586 (KU11329)/ORKINOS-1	10
17F3AFGHAN	8	16F2AFGHAN	8	606 (KU11339)/KARAHAN	10
17F3AFGHAN	9	16F2AFGHAN	9	636 (KU3053)/4/BETTY//AUS 4930.7/2*PASTOR/3/ORKINOS-1	10
17F3AFGHAN	10	16F2AFGHAN	10	678 (KU3083)/ARF2 (MAZAR 99)	10
17F3AFGHAN	11	16F2AFGHAN	11	715 (KU7455)/ARF4 (KABUL 2000)	10
17F3AFGHAN	12	16F2AFGHAN	12	717 (KU7457)/ARF5 (SOLH 02)	10
17F3AFGHAN	13	16F2AFGHAN	13	755 (KU7497)/ARF8 (RANA 96)	10
17F3AFGHAN	14	16F2AFGHAN	14	761 (KU7504)/KARAHAN	10
17F3AFGHAN	15	16F2AFGHAN	15	838 (KU7576)/ARF5 (SOLH 02)	10
17F3AFGHAN	16	16F2AFGHAN	16	857 (KU7592)/4/ATTILA//AGRI/NAC/3/ESKINA-8	10
17F3AFGHAN	17	16F2AFGHAN	17	893 (KU7632)/3/DAGDAS94/QT6258//MERCAN-1	10
17F3AFGHAN	18	16F2AFGHAN	18	907 (KU7651)/ARF2 (MAZAR 99)	10
17F3AFGHAN	19	16F2AFGHAN	19	915 (KU7658)/ARF2 (MAZAR 99)	10
17F3AFGHAN	20	16F2AFGHAN	20	933 (KU7676)/ARF5 (SOLH 02)	10

Afghan LRs (F2) 2017-18

15 Spike Selected per entry

18 ENT	CNAME	CID	No of Selected Spike/Entry
1	ATTAYE/CHONTE#1	CA16101	15
2	ATTAYE/MAZAR99	CA16102	15
3	SURKHAK MAHALI/CHONTE#1	CA16103	15
4	SURKHAK MAHALI/MAZAR99	CA16104	15
5	SAFEDAK KALAK BEDON_E_DASA/CHONTE#1	CA16105	15
6	SAFEDAK KALAK BEDON_E_DASA/MAZAR99	CA16106	15
7	OMID BEDON_E_DASA /CHONTE#1	CA16107	15
8	OMID BEDON_E_DASA /MAZAR99	CA16108	15
9	LALMI SAFEDAK/LALMI02	CA16109	15
10	LALMI SAFEDAK/LALMI04	CA16110	15
11	KALAK ROBAT SANGI/CHONTE#1	CA16111	15
12	KALAK ROBAT SANGI/MAZAR99	CA16112	15
13	ZARDCHA KALAK ROBAT SANGI/CHONTE#1	CA16113	15
14	ZARDCHA KALAK ROBAT SANGI/MAZAR99	CA16114	15
15	KALAK BOR KHOSHA/CHONTE#1	CA16115	15
16	KALAK BOR KHOSHA/MAZAR99	CA16116	15
17	OMID SORKH KHOSHA BEDON_E_DASAH /CHONTE#1	CA16117	15
18	OMID SORKH KHOSHA BEDON_E_DASAH/MAZAR99	CA16118	15

Afghan LRs (BC F1) 2017-18

15 Spike Selected per entry

Entry/No	Crossing History	No of Selected Spike/Entry
1	Attaye/Mazar99//Attaye	15
2	Attaye/Mazar99//Mazar99	15
3	Attaye/Chonte#1//Attaye	15
4	Attaye/Chonte#1//Chonte#1	15
5	Surkhak Mahali/Mazar99//Surkhak Mahali	15
6	Surkhak Mahali/Mazar99//Mazar99	15
7	Surkhak Mahali/Chonte#1//Surkhak Mahali	15
8	Surkhak Mahali/Chonte#1//Chonte#1	15
9	Lalmi Bor Khosha/Darullaman07//Lalmi Bor Khosha	15
10	Lalmi Bor Khosha/Darullaman07//Darullaman07	15
11	Lalmi Bor Khosha/Lalmi02//Lalmi Bor Khosha	15
12	Lalmi Bor Khosha/Lalmi02//Lalmi02	15
13	Safedak Kaiak Bedon_e_Dasa/Mazar99//Safedak Kaiak Bedon_e_Dasa	15
14	Safedak Kaiak Bedon_e_Dasa/Mazar99//Mazar99	15
15	Safedak Kaiak Bedon_e_Dasa/Chonte#1//Safedak Kaiak Bedon_e_Dasa	15
16	Safedak Kaiak Bedon_e_Dasa/Chonte#1//Chonte#1	15
17	Omid bedon dasa/Mazar99//Omid bedon dasa	15
18	Omid bedon dasa/Mazar99//Mazar99	15
19	Omid bedon dasa/Chonte#1//Omid bedon dasa	15
20	Omid bedon dasa/Chonte#1//Chonte#1	15
21	Lalmi Safidak/Lalmi02//Lalmi Safidak	15
22	Lalmi Safidak/Lalmi02//Lalmi02	15
23	Lalmi Safidak/Lalmi04//Lalmi Safidak	15
24	Lalmi Safidak/Lalmi04//Lalmi04	15
25	Kalak Robat Sangi/Mazar99//Kalak Robat Sangi	15
26	Kalak Robat Sangi/Mazar99//Mazar99	15
27	Kalak Robat Sangi/Chonte#1//Kalak Robat Sangi	15
28	Kalak Robat Sangi/Chonte#1//Chonte#1	15
29	Kalak Bor Khosha/Mazar99//Kalak Bor Khosha	15
30	Kalak Bor Khosha/Mazar99//Mazar99	15
31	Kalak Bor Khosha/Chonte#1//Kalak Bor Khosha	15
32	Kalak Bor Khosha/Chonte#1//Chonte#1	15
33	Omid sorkh khosha bedon -e-dasah/Mazar99//Omid sorkh khosha bedon -e-dasah	15
34	Omid sorkh khosha bedon -e-dasah/Mazar99//Mazar99	15
35	Omid sorkh khosha bedon -e-dasah/Chonte#1//Omid sorkh khosha bedon -e-dasah	15
36	Omid sorkh khosha bedon -e-dasah/Chonte#1//Chonte#1	15
37	Zardcha Kalak Robat Sangi/Mazar99//Zardcha Kalak Robat Sangi	15
38	Zardcha Kalak Robat Sangi/Mazar99//Mazar99	15
39	Zardcha Kalak Robat Sangi/Chonte#1//Zardcha Kalak Robat Sangi	15
40	Zardcha Kalak Robat Sangi/Chonte#1//Chonte#1	15

Afghan LRs in Farmer Field 2017-18

Total the project distributed 50 package LRs to the farmers at Herat and Balkh

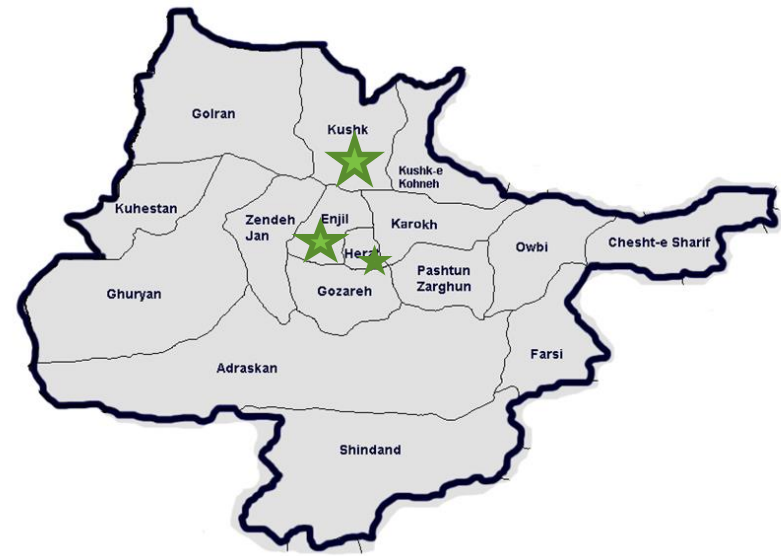
Farmers planted landraces in Balkh 2017-2018

No	Country	Province	District	Village	Farmer
1	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Abdul Marouf
2	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Nazamudin
3	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Haji Mohammad Yaqoub
4	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Lal mohammad
5	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Mohammad Ali
6	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Aqa Mohammad
7	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Karim Bay
8	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Aziz ullah
9	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Lal Gul
10	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Baba Akhtar
11	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Mohammad Rahim
12	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Soor Gul
13	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Gul Mahammad
14	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Gulam Sakhi
15	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Sahibdin
16	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Samiullah
17	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Mir Hamza
18	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Ahmad Yousuf
19	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Adam Khan
20	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Jamaludin
21	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Mohammad Khan
22	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Jouma Khan
23	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Abdul Satar
24	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Sayed Omar
25	Afghanistan	Balkh	Balkh	Khoujah Bahaudin	Mohammad Sabir

Farmers planted landraces in Herat-2017-2018

No	Country	Province	District	Village	Farmer
1	Afghanistan	Herat	Enjil	Dogh-Abad	Farooz
2	Afghanistan	Herat	Enjil	Dogh-Abad	Khalil Ahmad
3	Afghanistan	Herat	Enjil	Dogh-Abad	Salim Shah
4	Afghanistan	Herat	Enjil	Dogh-Abad	Abdul Khaliq
5	Afghanistan	Herat	Enjil	Dogh-Abad	Haji Ghulam Bashir
6	Afghanistan	Herat	Enjil	Dogh-Abad	Nasir Ahmad
7	Afghanistan	Herat	Enjil	Dogh-Abad	Ghual Sarwar
8	Afghanistan	Herat	Enjil	Dogh-Abad	Abdul Zahir
9	Afghanistan	Herat	Enjil	Dogh-Abad	Ismail
10	Afghanistan	Herat	Enjil	Dogh-Abad	Mahbub Shah
11	Afghanistan	Herat	Enjil	Dogh-Abad	Mafuz
12	Afghanistan	Herat	Enjil	Dogh-Abad	Nisar Ahmad
13	Afghanistan	Herat	Enjil	Dogh-Abad	Ramazan
14	Afghanistan	Herat	Enjil	Dogh-Abad	Haji Ghulam Sarwar
15	Afghanistan	Herat	Enjil	Dogh-Abad	Bihbud
16	Afghanistan	Herat	Enjil	Dogh-Abad	Maroof
17	Afghanistan	Herat	Enjil	Dogh-Abad	Arbab Gul Ahmad
18	Afghanistan	Herat	Enjil	Dogh-Abad	Abdul Rauof
19	Afghanistan	Herat	Enjil	Dogh-Abad	Temoor Shah
20	Afghanistan	Herat	Enjil	Dogh-Abad	Ghulab Shah
21	Afghanistan	Herat	Enjil	Dogh-Abad	Juma Gul
22	Afghanistan	Herat	Enjil	Dogh-Abad	Ghulam Naqshband
23	Afghanistan	Herat	Kushk_E_Rubat sangee	Dou-Aab	Mirza Gul
24	Afghanistan	Herat	Kushk_E_Rubat sangee	Dou-Aab	Abdul Satar
25	Afghanistan	Herat	Kushk_E_Rubat sangee	Dou-Aab	Mir Ahmad

LRs project implemented activities during 17-18 in Herat Province



Trials and Nurseries

1. Afghan Iran LRs Trials
2. LRs seed multiplication.

Field Days and Workshops:

1. Field day on Importance of LRs and seed distribution, Enjil and Kuchek_E_Rubat Sangee districts.
2. Training on wheat varieties, landraces, Agronomy and seed production, Enjil district.



Herat

LRs seed distribution and Training on Wheat varieties, landraces, Agronomy and seed production

LRs seed distribution to farmers, Enjil and Kushk_E_Rubat Sangee districts.



To distribute LRs materials to 25 farmers of Enjil and Kushk_E_Rubat Sangee districts

Training about Wheat varieties, landraces, Agronomy and seed production



Training about Wheat varieties, landraces, Agronomy and seed production in the farmer field with 33 participants, the participants were individual farmers, researchers, Extension workers, Community elders and Neighbors' farmers.



Herat

Provincial Field Day, Evaluate the landraces with farmers and training on wheat varieties, landraces, and agronomy and seed production

Herat province, Enjil District, Dough Abad village



Province. Provincial Field Day: this big field day conducted, (Enjil) with **(35)** participants of all invited stakeholders (farmers, extension agents, university members, industry members related to wheat, researchers and farmers from neighboring districts and villages).

Herat province, Kushk_E_Rubat Sangee District, Khoajah Malal village



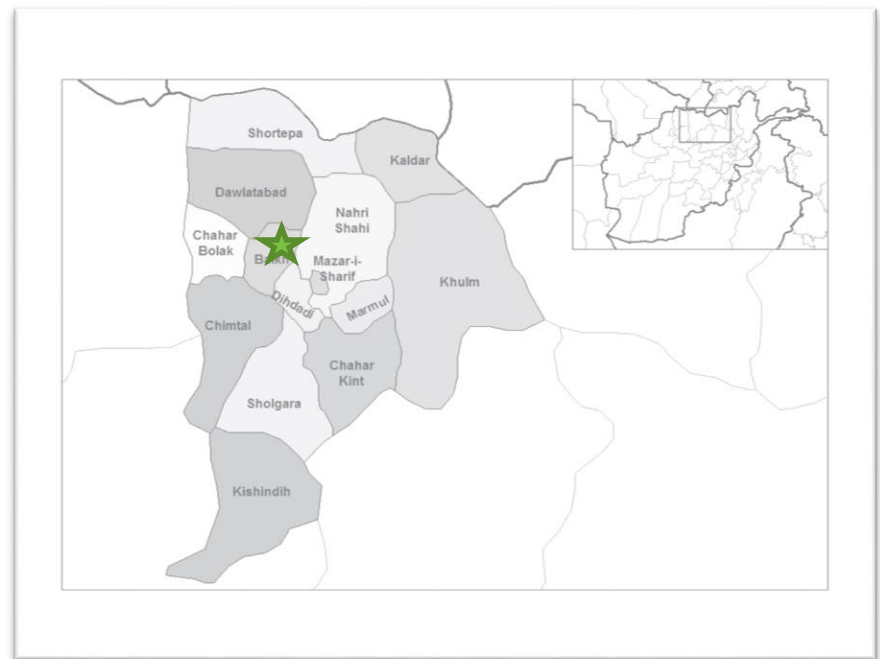
Province. Provincial Field Day: this big field day conducted, (Kushk_E_Rubat Sangee) with **(41)** participants of all invited stakeholders (farmers, extension agents, university members, industry members related to wheat, researchers and farmers from neighboring districts and villages).



LRs project implemented activities during 17-18 in Balkh Province

Field Days and Workshops:

- 1) Field day on Importance of LRs and seed distribution, Balkh district.
- 2) Training on wheat varieties, landraces, Agronomy and seed production, Balkh district.



Balkh

LRs seed distribution and Training on Wheat varieties, landraces, Agronomy and seed production

LRs seed distribution to farmers



To distribute LRs materials to 25 farmers of Balkh district

Training about Wheat varieties, landraces, Agronomy and seed production



Training about Wheat varieties, landraces, Agronomy and seed production in the farmer field with 18 participants, the participants were individual farmers, researchers, Extension workers, Community elders and Neighbors' farmers.



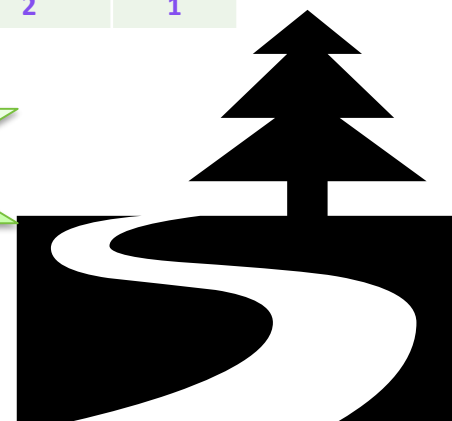
Project Outcome On Research Station during 2017-18:

NO	Exp/ Location	sets	# Entries	Kabul	Herat	Helmand
				Beni Hasar R,S	Urdo Khan R,S	Bolan R,S
1	Afghan LRs Seed Multi	5	5		√	√
2	Iran-Afghan LRs	2	36	√	√	
3	17F4AFGHAN	1	20	√		
4	18F3AFGHAN	1	16	√		
5	Afghan LRs BC F1	1	40	√		
6	Afghan LRs F2	1	18	√		
7	Afghan LRs Seed Multi	1	20	√		
8	Progeny Block	1	10	√		
TOTAL		13	165	7	2	1



33 Families

3 Research Station



0,8 ha. Land

Project Outcome On farmer field during 2017-18:

Project Type	Total # of direct beneficiary farmers and stakeholders	Total # of indirect beneficiary farmers and stakeholders	Shown interest with LR's # of farmers
LRs Seed Distribution & Training	173	300	200



Planned LR activities On Research Station & Farmer Field for 2018-19

LRs Project Technical Program for 2018-19																	
NO	Exp/ Location	sets	# Entries	Kabul				Balkh				Herat				Helmand	Baghlan
				Beni-e-Hasar R,S	Chahar Asyab	Bagrami	Paghman	Dehdadi R,S	Dehdadi	Balkh	Nahri Shahi	Urdo Khan R,S	Enjil	Guzara	Rubat_e_sangi	Bolan R,S	Pozi-e-Shan R,S
1	Afghan LR in Farmer Field	300	5		√	√	√		√	√	√		√	√	√		
2	Afghan LR Seed Multi	5	5													√	√
3	Iran-Turk-Afghan LR -RF-sowing	2	20					√				√					
4	Iran-Turk-Afghan LR -IR- early sowing	2	20	√												√	
5	Iran-Turk-Afghan LR -IR- Optimum sowing	4	20	√				√				√				√	
6	Iran-Turk-Afghan LR -IR- late sowing	2	20	√												√	
7	17F5AFGHAN (Space Planting)	1	20	√													
8	18F4AFGHAN (Space Planting)	1	16	√													
9	Afghan LR F3(Space Planting)	1	20	√													
10	Afghan LR BC F2 (Space Planting)	1	40	√													
11	(DNA) Samples Phenotyping Nursery	1	170	√													
12	Afghan LR Pure seed demo	1	5	√													
13	Turk-Iran-Afghan LR Demo	1	105	√													
14	19F3LRACE+	1	43	√													
15	19LRACE-INTER-EXCH	1	165	√													
16	CKD-20-T2	1	1	√													
TOTAL		325	675	13	1	1	1	2	1	1	1	2	1	1	1	4	1



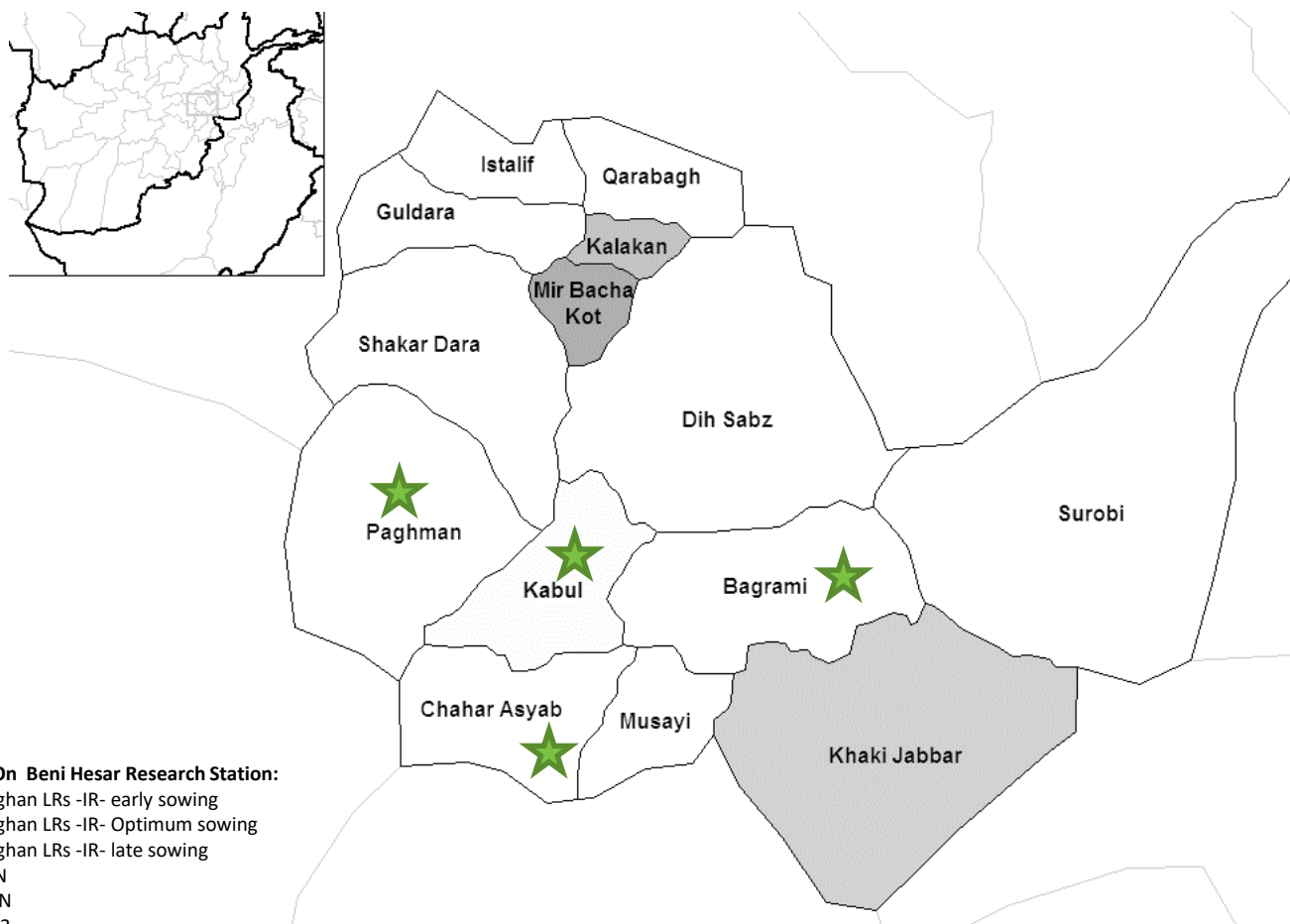
Number Of LRs Farmer Field Demo 2018-19

Number Of LRs Farmer Field Demo			
No	Name	Location	Number of Demo
1	Attay	Balkh	50
2	Surkhak Mahali	Balkh	50
3	Attay	Kabul	50
4	Surkhak Mahali	Kabul	50
5	Kalak Robat Sangi	Herat	30
6	Omid Sorhk Khosha Bedon_e_ Dasah	Herat	30
7	Zardcha Kalak Robat Sangi	Herat	40

Province	District	Village	Famer
3	9	32	300



LRs project Planed activities for **Kabul** in 2018-19



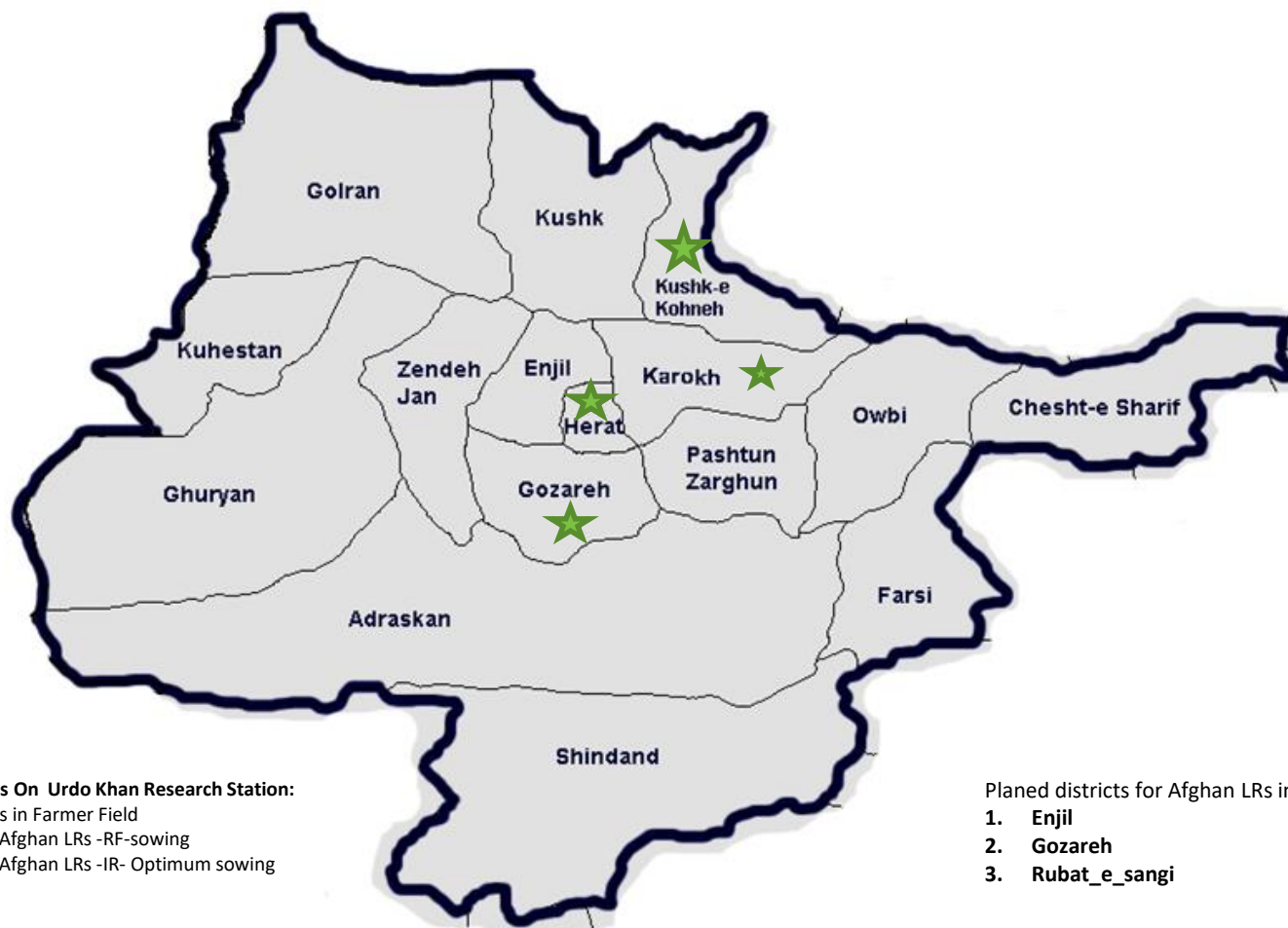
Planned activities On Beni Hesar Research Station:

1. Turk-Iran-Afghan LRs -IR- early sowing
2. Turk-Iran-Afghan LRs -IR- Optimum sowing
3. Turk-Iran-Afghan LRs -IR- late sowing
4. 17F5AFGHAN
5. 18F4AFGHAN
6. Afghan LRs F3
7. Afghan LRs BC F2
8. (DNA) Samples Phenotyping Nursery
9. Afghan LRs Pure seed demo

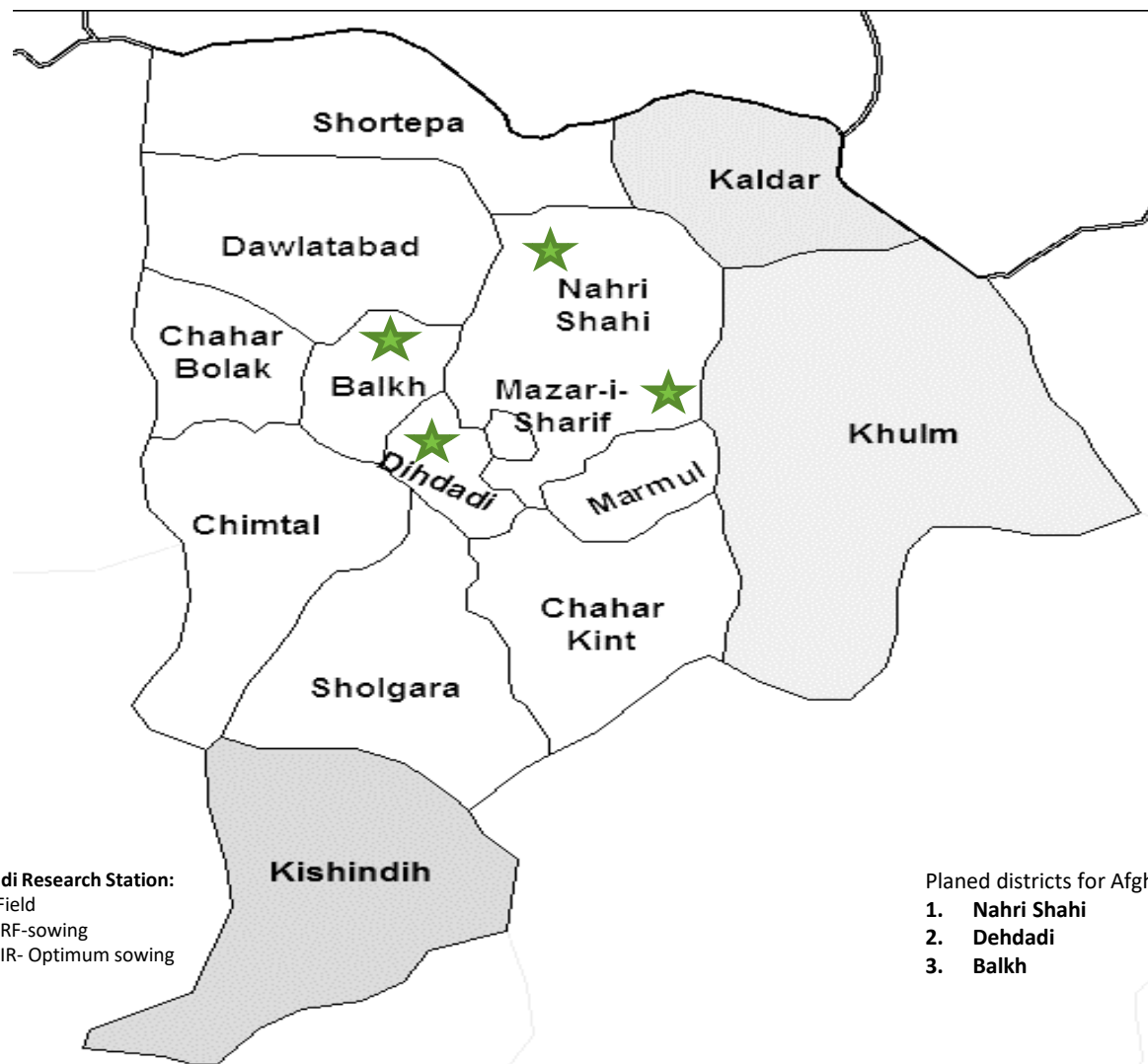
Planned districts for Afghan LRs in Farmer Field:

1. Chahar Asyab
2. Bagrami
3. Paghmani

LRs project Planed activities for Herat in 2018-19



LRs project planed activities for Balkh in 18-19



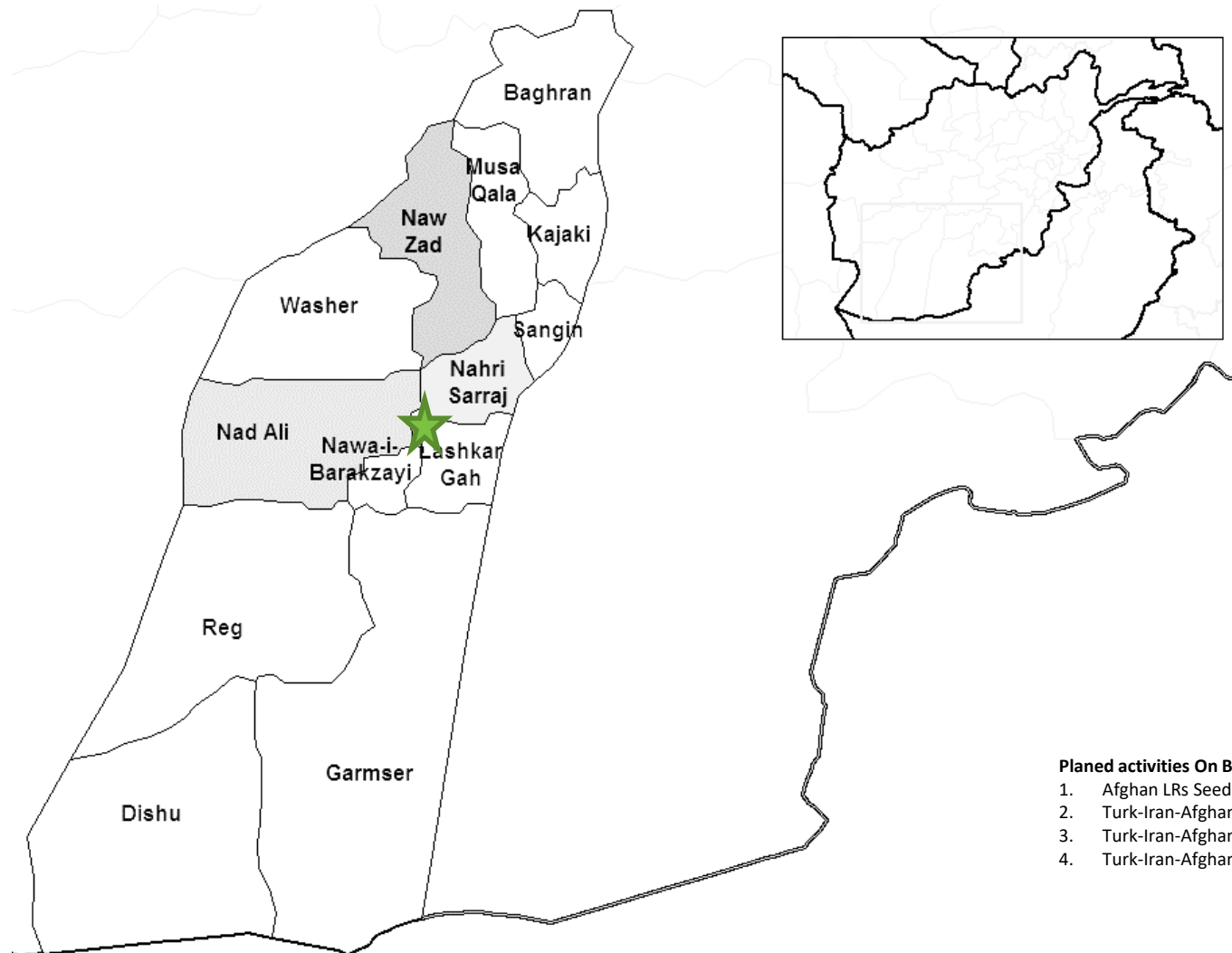
Planned activities On Dehdadi Research Station:

1. Afghan LRs in Farmer Field
2. Turk-Iran-Afghan LRs -RF-sowing
3. Turk-Iran-Afghan LRs -IR- Optimum sowing

Planned districts for Afghan LRs in Farmer Field:

1. Nahri Shahi
2. Dehdadi
3. Balkh

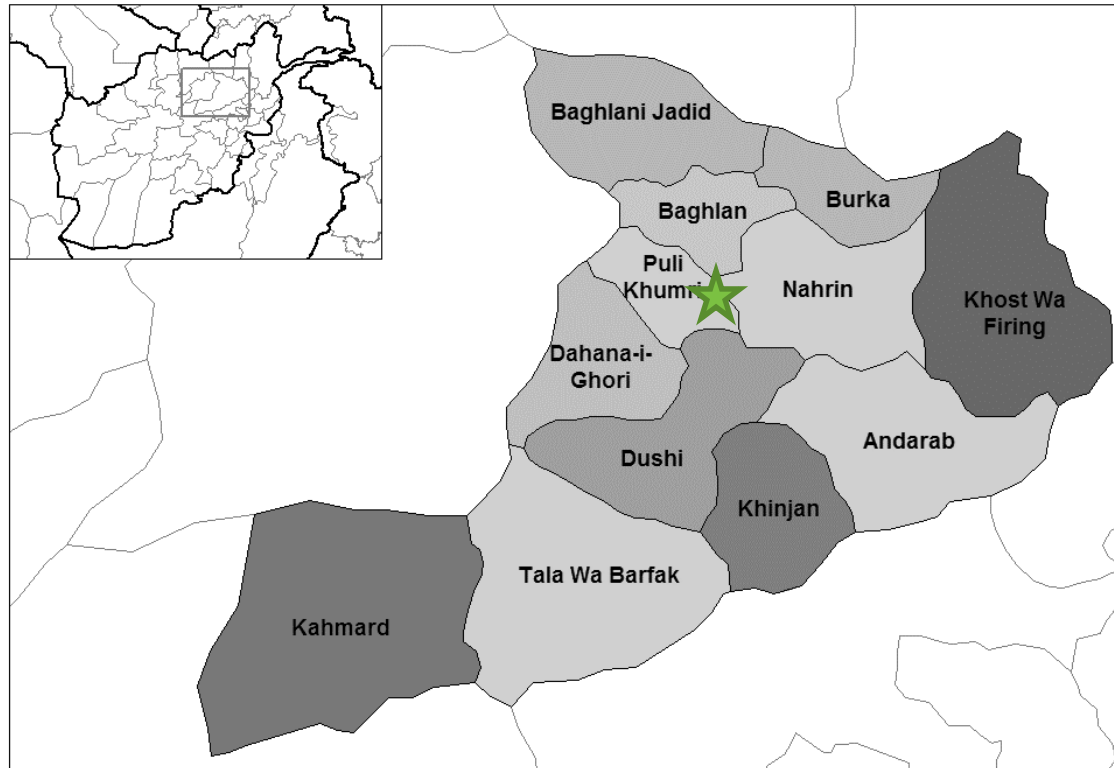
LRs project planed activities for Helmand in 18-19



Planned activities On Bolan Research Station:

1. Afghan LRs Seed Multi
2. Turk-Iran-Afghan LRs -IR- early sowing
3. Turk-Iran-Afghan LRs -IR- Optimum sowing
4. Turk-Iran-Afghan LRs -IR- late sowing

LRs project planed activities for **Baghlan** in 18-19



Planned activities On Pozi eshan Research Station:

1. Afghan LRs Seed Multi



Gender Surveyed Herat

1) **Herat**, project Interviewed 125 Farming Women at 14 villages 3 districts.



19, Nov, 2018 Herat, Rubat Sangee, Mahajir Abad village, LRs Farming women Interview Metra



13, Nov, 2018 Herat, Turk Abad village, LRs Farming women Interview Metra



11, Nov, 2018 Herat, Rubat Jarnail village, LRs Farming women Interview Metra

Gender Surveyed **Balkh**

2) **Balkh**, project Interviewed 126 Farming Women at 13 villages 3 districts.



11, Oct, 2018 Balkh, Haji Kot village, LRs Farming Women Interview Sabira



13, Oct, 2018 Balkh, Pushti Bagh village, LRs Farming Women Interview Sabira



17, Oct, 2018 Balkh, Sayed Abad village, LRs Farming Women Interview Sabira

Gender Surveyed **Kabul**

3) **Kabul**, project Interviewed 100 Farming Women at 10 villages 3 districts.



28, Oct 2018 Kabul, Chahar Asyab, Qala Naim village, LRs Farming women Interview Group Pic, Sabira, Behishta and Metra

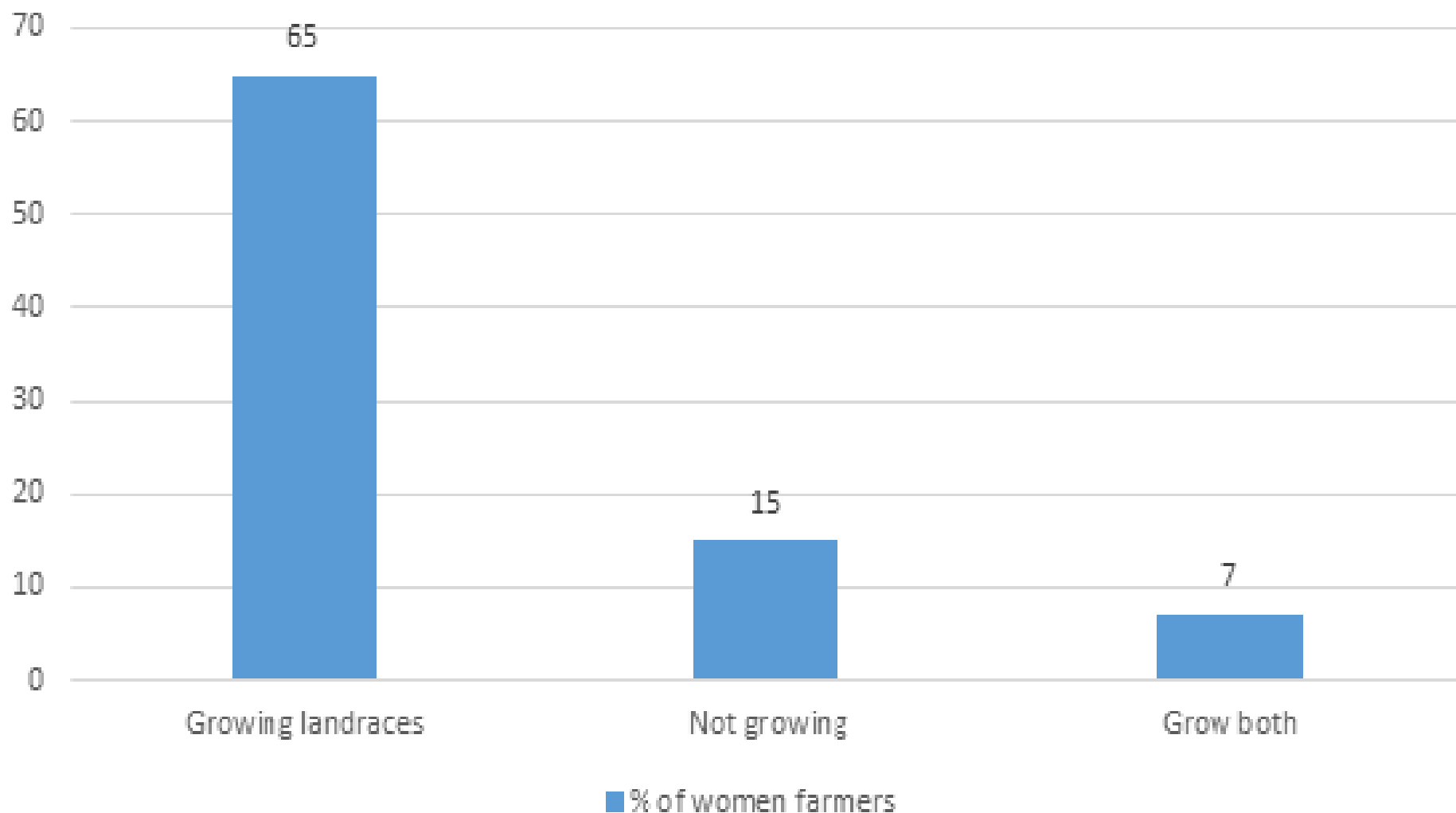


05, Nov 2018 Kabul, Paghmani, Qala Agha village, LRs Farming women Interview, Behishta

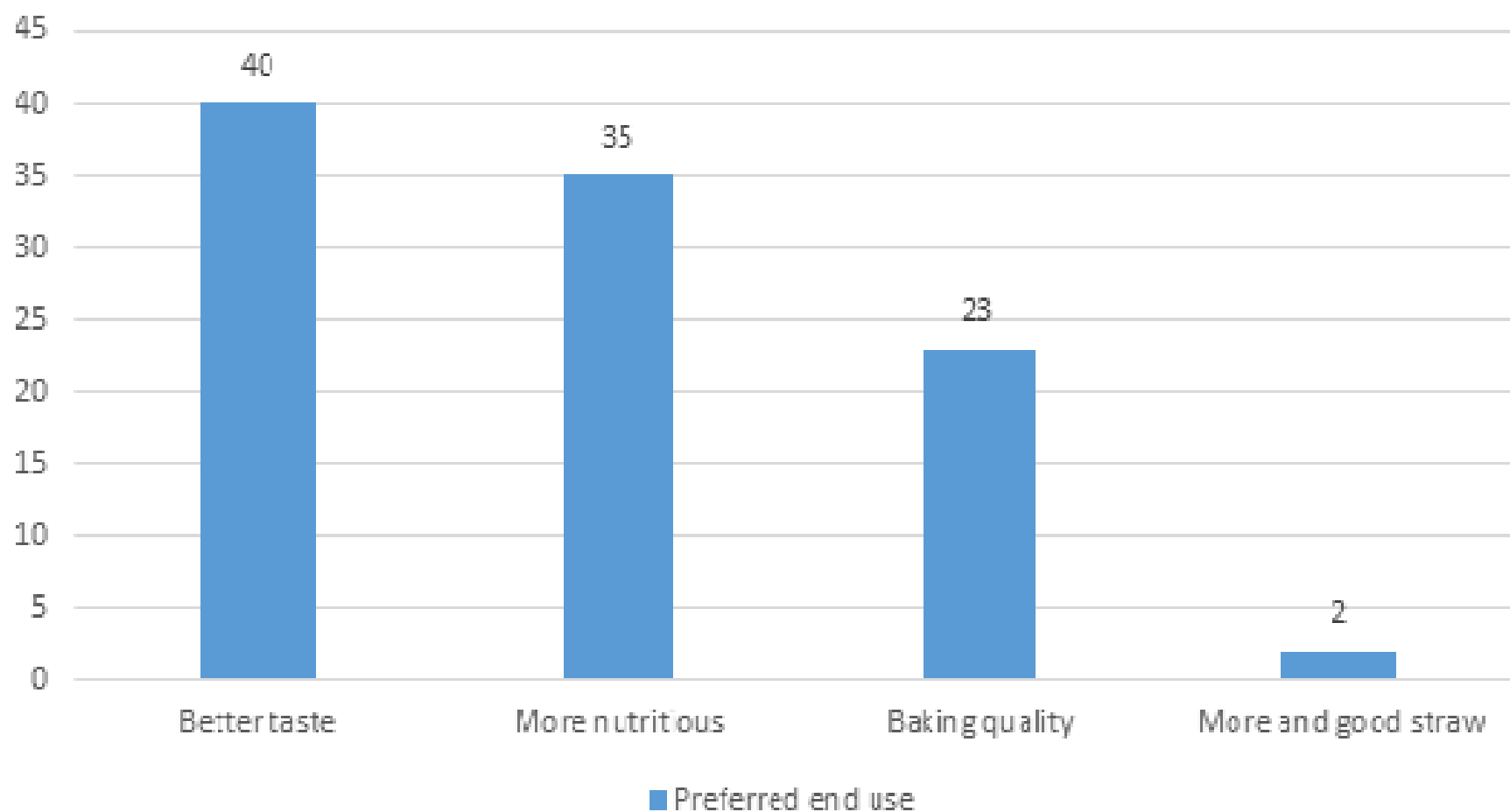


04, Nov 2018 Kabul, Paghmani, Qala Saqee village, LRs Farming women Interview, Behishta

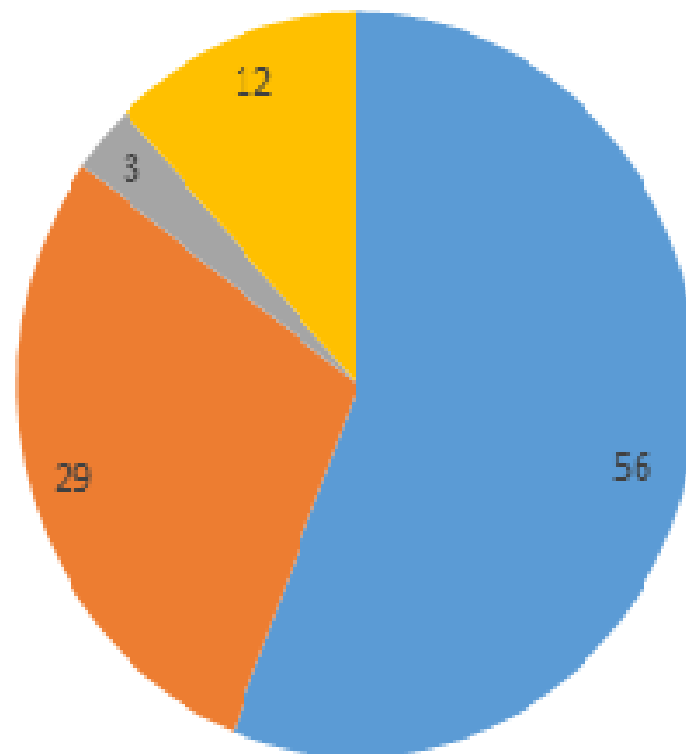
% of women farmers growing landraces



Preferred end use



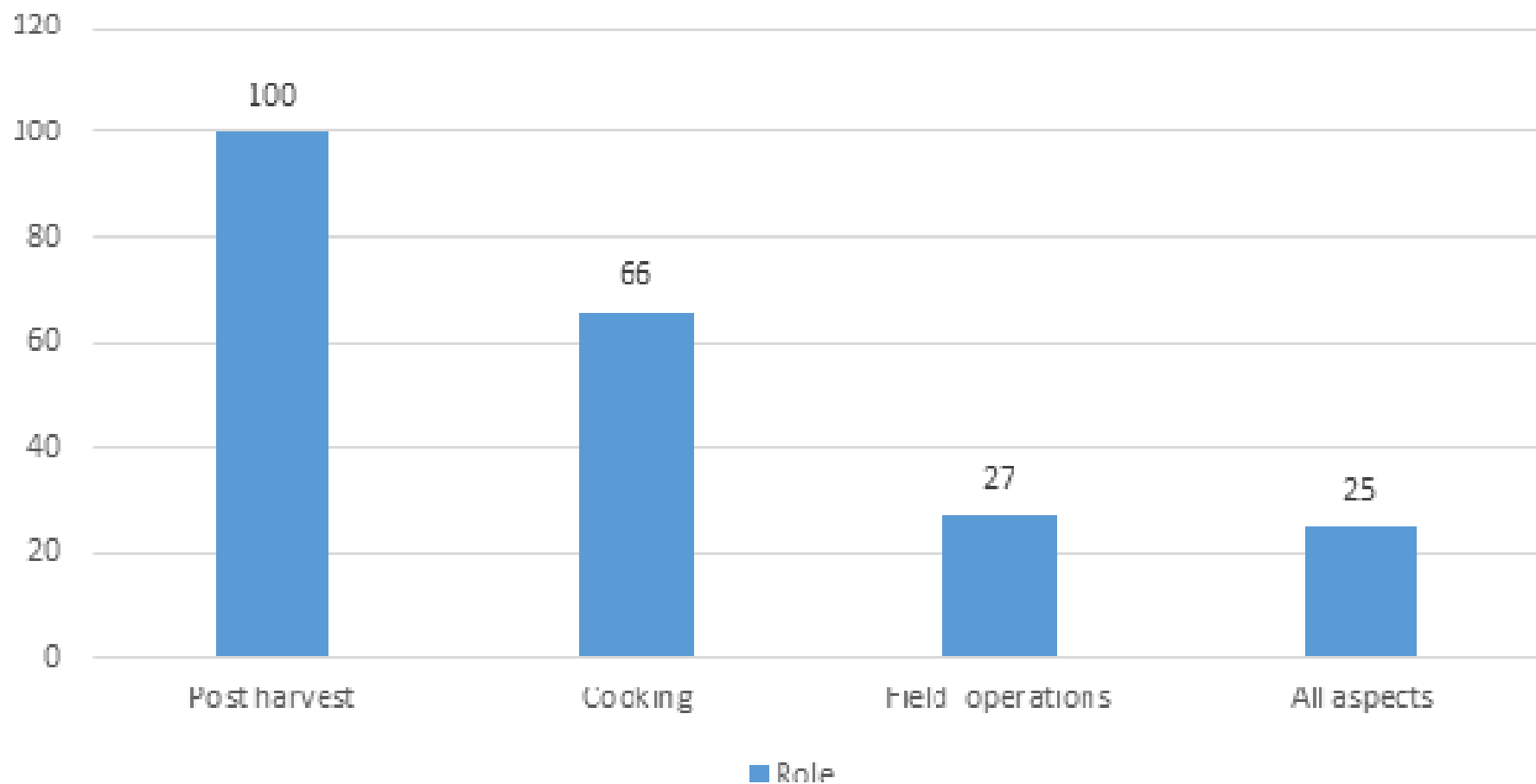
% Decision Maker



■ Husband ■ Collective ■ Women ■ Others



Role: % of respondents

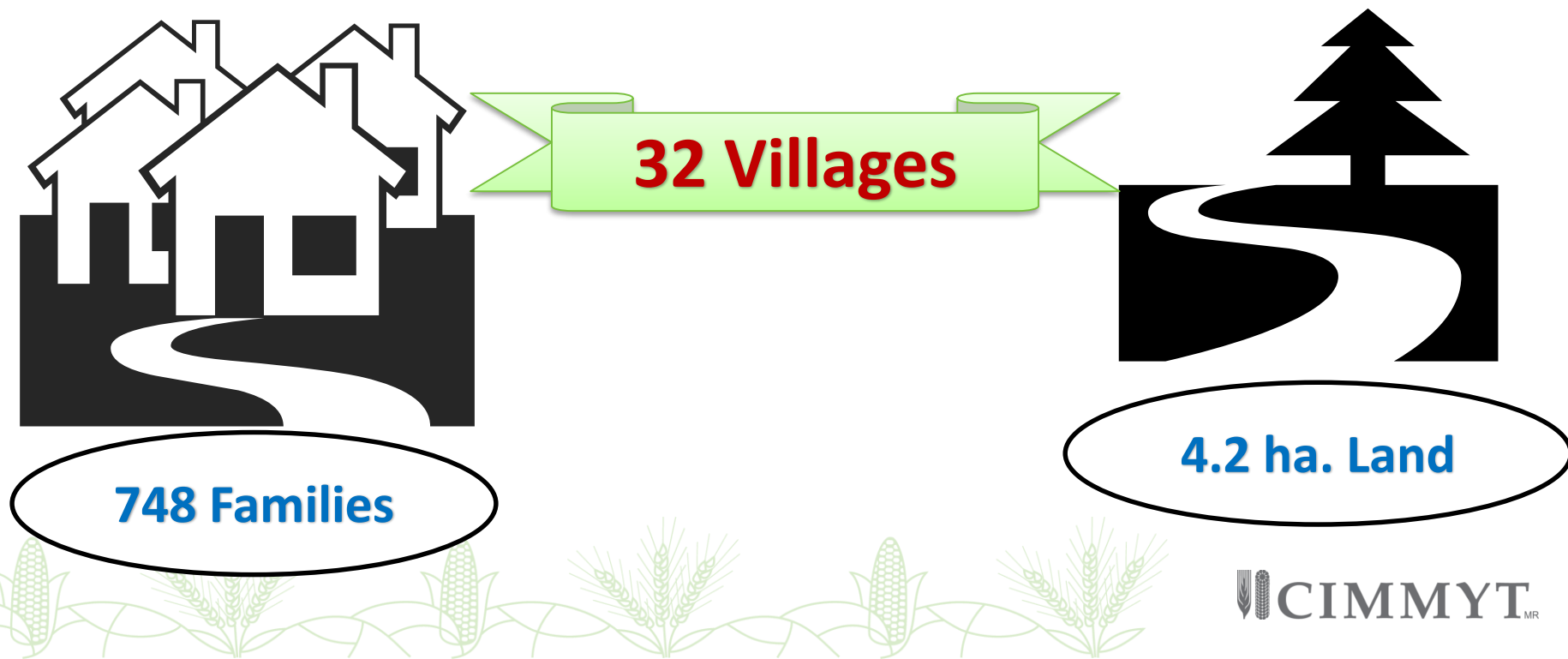


Wheat landraces project work done till date in Afghanistan

year	Kabul	Balkh	Herat
14-15	Nursery was sown in Kabul	Collected 8 land races	Collected 17 land races
15-16	On Research Station: 1: LRs Trial in Kabul (10 landraces and two checks). 2: Crosses with released varieties. 3: Heads selection. 4: Seed multiplication.	No Activity	No Activity
16-17	On Research Station: 1: Afghan LRs Trial. 2: Turkish LRs Nursery. 3: 17F3AFGHAN. 4: Head to row. 5: Crosses with Parents.	On Research Station: 1: Afghan LRs Trial. 2: Turkish LRs Nursery. 3: 17F3AFGHAN. On Farmer field: 1: 10 landraces and two checks at two locations. 2: Farmer selections. 3: Disease resistance. 4: Yield criteria.	On Research Station: 1: Afghan LRs Trial. 2: Turkish LRs Nursery. 3: 17F3AFGHAN. On Farmer field: 1: 10 landraces and two checks at two locations. 2: Farmer selections. 3: Disease resistance. 4: Yield criteria.
17-18	On Research Station: 1: Afghan LRs Seed Multiplication 2: Iran-Afghan LRs Trial. 3: 17F3AFGHAN (F4 generations). 4: 18F3AFGHAN. 5: Afghan LRs BC. 6: Afghan LRs F2. 7: Progeny Block	On Farmer field: Balkh for 25 farmers given 1500 gr seed 140 m ² , one district, Balkh district and only one village	On Research Station: 1: Afghan LRs Seed Multiplication. 2: Iran-Afghan LRs Trial. On Farmer field: Herat for 25 farmers given 1500 gr seed 140 m ² in two districts viz., Rabat Sangee and Enjil, one village each district.
18-19	Two land races in Kabul for 100 farmers given 1500 gr seed 140 m ² , in three districts, 10 villages, 100 women surveyed LRs project overview meeting for stakeholders conducted in Kabul ARIA 43	Two land races in Balkh for 100 farmers given 1500 gr seed 140 m ² , in three district, 11 villages and 126 women surveyed	Three land races in Herat for 100 farmers given 1500 gr seed 140 m ² in three district, 11 villages and 125 women surveyed

Planned LR's Project Outcome during for 2018-19

Project Type	Total # of direct beneficiary farmers and stakeholders	Total # of indirect beneficiary farmers and stakeholders	Shown interest with LR's # of farmers
LR's Seed Distribution & Training	354	200	150
Stakeholders Workshop	43	50	65
Gender Surveyed	351	150	300



LRs Project Outcome so far

Project Type	Total # of direct beneficiary farmers and stakeholders	Total # of indirect beneficiary farmers and stakeholders	Shown interest with LR's # of farmers
LRs Seed Distribution & Training	684	500	300
Stakeholders Workshop	121	50	65
Gender Surveyed	351	200	200



40 Villages



1156 Families

6.6 ha. Land

LRs project overview meeting:



03, July 2019 Kabul, Badam Bagh ARIA, LRs project overview meeting- Raqib (4)



03, July 2019 Kabul, Badam Bagh ARIA, LRs project overview meeting- Noori (8)



03, July 2019 Kabul, Badam Bagh ARIA, LRs project overview meeting- Group Photo

Project visibility



AGREEMENT

CIMMYT- Afghanistan and ARIA collaborated with CIMMYT-Turkey under the aegis of a multi country International Treaty on PGRFA project involving Turkey, Iran and Afghanistan. The project organized landrace collection, rejuvenation, improvement, multiplication, enhancement etc., and now has below listed material either in ARIA research fields or in CIMMYT store. This material is now officially transferred to ARIA for research and for inclusion in Seed Gene Bank.

Date: 19 MAY 2019



Dr. Rajiv Sharma
CIMMYT- Afghanistan




Dr. Najibeh Ataei
Director General- ARIA

Project Handover

List of material to be transferred:

Nursery	Number of entries	Seed quantity	Material/ status
17F3AFGHAN	20	Nil	Crop in the field
18F3AFGHAN	16	Nil	Crop in the field
Afghan LRs F3	20	Nil	Crop in the field
Afghan LRs BC F2	40	Nil	Crop in the field
19F3LRACE+	43	Nil	Crop in the field
19LRACE-INTER-EXCH	165	Nil	Crop in the field
Afghan land races Collected from Herat and Balkh	25	10 g per entry	In store
Attay	1	1.0 kg	In store
Surkhak Mahali	1	1.0 kg	In store
Kalak Robot Sangi	1	1.0 kg	In store
Zardcha Kalak Robot Sangi	1	1.0 kg	In store
Omid Sorhk Khosha Bedon e Dasah	1	1.0 kg	In store
Total	304	5.25 kg	

Future plans

Five LRs wheat Available Seed form (Seed Multiplication)

No	Vareity name	Yield /Kg
1	Attay	563
2	Surkhak Mahali	496
3	Kalak Robat Sangi	410
4	Omid Sorhk Khosha Bedon_E_Dasah	385
5	Zardcha Kalak Robat Sangi	418
Total		2272



Future plan...

No	Segregation Materials
1	17F5AFGHAN
2	18F4AFGHAN
3	Afghan LRs F3
4	Afghan LRs BC F2
5	19F3LRACE



Acknowledgments





Thank
you

